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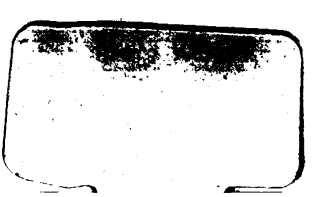
E. H. B.



Special attention is called to the following:

The next Annual Meeting of the MEDICAL SOCIETY OF NEW JERSEY will be held at Atlantic City, on the 24th, 25th and 26th of June, 1902.

Each District Society is entitled to three Delegates at large and one additional delegate for every ten members.

There will be no selection of Permanent Delegates (except to fill vacancies) until 1903. Full directions for filling vacancies can be found in the amended by-laws (see Trans. 1899), or can be obtained by application to the Secretary.

The District Reporters are requested to send their reports to the Chairman of the Standing Committee at least two weeks before the time of the Annual Meeting.

The Standing Committee would remind Reporters that their reports are published in the volume of Transactions, and should therefore be carefully prepared, and that names and medical terms especially should be distinctly written. Reports from other physicians should be incorporated in their own report.

The Secretaries of the District Societies are requested to send a list of the Officers, of the Annual Delegates, of Active Members in regular standing, and (in a separate list) of the Delinquent Members, with the post-office addresses, to the Recording Secretary, Dr. Wm. J. Chandler, South Orange, *at least thirty days* before the Annual Meeting, in order that the programmes may be sent out earlier, and to *every* member of the District Societies.

The assessment upon the District Societies for the year ending June, 1902, is $1.00 for each member.

FELLOWS' PRIZE ESSAY.

This prize was instituted by the Fellows of the Medical Society of New Jersey in 1881, and is open for competition to the members of the District Medical Societies.

The Essays may be on any subject connected with the practice of medicine or surgery. They must be signed with an assumed name and have a motto, both of which shall be endorsed on a sealed envelope containing the author's name, residence and District Society.

The Essays with the sealed envelope must be placed in the hands of the Chairman of the Committee on or before the first day of May, 1902. The Committee will select the two first Essays in order of merit. To the first will be awarded the prize of one hundred dollars; to the second that of honorary mention.

No awards, however, will be made unless the merits of the Essays shall be of such a character as shows original work which will add to the present knowledge of disease and its treatment.

The unsuccessful authors will receive back their Essays upon their identification to the Chairman of the Committee. The successful Essays will be the property of the Society and be published in its Transactions.

HENRY R. BALDWIN, M. D., *Chairman*, New Brunswick,
DAVID C. ENGLISH, M. D., New Brunswick,
WILLIAM ELMER, M. D., Trenton,
Committee.

NEW BRUNSWICK, N. J., July 1, 1901.

TRANSACTIONS

OF THE

MEDICAL SOCIETY

OF

NEW JERSEY.

1901.

L. J. Hardham, Printer, 243 & 245 Market Street, Newark, N. J.

1901.

BOSTON MEDICAL
JAN. 4 1902
LIBRARY.

OFFICERS, 1901.

PRESIDENT.

J. D. McGILL, ... Jersey City

VICE-PRESIDENTS.

E. L. B. GODFREY, ... Camden
HENRY MITCHELL, ... Asbury Park
A. W. TAYLOR, ... Beverly

CORRESPONDING SECRETARY.

E. W. HEDGES, ... Plainfield

RECORDING SECRETARY.

WILLIAM J. CHANDLER, . . . South Orange

TREASURER.

ARCHIBALD MERCER, ... Newark

STANDING COMMITTEE.

TERM EXPIRES 1902.

HENRY W. ELMER, *Chairman*, . . Bridgeton
B. A. WADDINGTON, ... Salem

TERM EXPIRES 1903.

G. H. BALLERAY, ... Paterson
W. H. IRELAND, ... Camden

TERM EXPIRES 1904.

CHARLES YOUNG, ... Newark
JOHN P. HECHT, ... Somerville

CATALOGUED
JAN 4 1902
E. H. B.

BOSTON MEDICAL
JAN 4 1902
LIBRARY.

FELLOWS.

All persons who shall have been, or may hereafter be President of the Society, shall rank as Fellows, and be entitled to all the privileges of delegated members.

Act of Incorporation, Sec. 1.

The dates represent the year of election as President.

Those marked thus (*) are deceased.

*ROBERT MCKEAN 1766
*WILLIAM BURNETT.. ...1767
*JOHN COCHRAN.....1768
*NATHANIEL SCUDDER....1770
*ISAAC SMITH.....1771
*JAMES NEWELL 1772
*ABSALOM BAINBRIDGE....1773
*THOMAS WIGGINS.....1774
*HEZEKIAH STITES.....1775
* * * * *
*JOHN BEATTY.....1782
*THOMAS BARBER.....1783
*LAWRENCE VAN DERVEER.1784
*MOSES BLOOMFIELD.....1785
*WILLIAM BURNETT 1786
*JONATHAN ELMER.....1787
*JAMES STRATTON.....1788
*MOSES SCOTT.....1789
*JOHN GRIFFITH.. 1790
*LEWIS DUNHAM..... ...1791
*ISAAC HARRIS.....1792
*ELISHA NEWELL ... .1795
*JONATHAN F. MORRIS....1807
*PETER I. STRYKER.....1808
*LEWIS MORGAN ... .1809
*LEWIS CONDICT ... .1810
*CHARLES SMITH.....1811
*MATT. H. WILLIAMSON..1812
*SAMUEL FORMAN.....1814
*JOHN VAN CLEVE... ... 1815
*LEWIS DUNHAM.....1816
*PETER I. STRYKER.....1817
*JOHN VAN CLEVE.....1818
*LEWIS CONDICT..... 1819
*JAMES LEE..... 1820
*WILLIAM G. REYNOLDS..1821
*AUGUSTUS R. TAYLOR...1822
*WILLIAM B. EWING.....1823
*PETER I. STRYKER.....1824
*GILBERT S. WOODHULL..1825
*WM. D. MCKISSACK 1826
*ISAAC PIERSON..... 1827
*JEPTHA B. MUNN.....1828
*JOHN W. CRAIG.....1829
*AUGUSTUS R. TAYLOR. .1830
*THOMAS YARROW.....1831
*FITZ RANDOLPH SMITH..1832
*WILLIAM FORMAN.....1833
*SAMUEL HAYES.....1834
*ABM. P. HAGEMAN.....1835
*HENRY VAN DERVEER...1836
*LYNDON A. SMITH... ...1837

*Benj. H. Stratton.....1838
*Jabez G. Goble.....1839
*Thomas P. Stewart.....1840
*Ferdinand S. Schenck..1841
*Zachariah Read..... 1842
*Abraham Skillman.....1843
*George R. Chetwood...1844
*Robert S. Smith.....1845
*Charles Hannah.....1846
*Jacob T. B. Skillman....1847
*Samuel H. Pennington.1848
*Joseph Fithian.....1849
*Elias J. Marsh.....1850
*John H. Phillips.....1851
*Othn'l H. Taylor.....1852
*Samuel Lilly.....1853
*A. B. Dayton.....1854
*J. B. Coleman... 1855
*Richard M. Cooper.....1856
*Thomas Ryerson.....1857
*Isaac P. Coleman.....1858
*John R. Sickler.....1859
*Wm. Elmer. 1860
*Jno. Blane.....1861
*Jno. Woolverton.....1862
*Theo. R. Varick.....1863
*Ezra M. Hunt.....1864
*Abram Coles..... 1865
*Benjamin R. Bateman...1866
Jno. C. Johnson 1867
*Thomas J. Corson.....1868
*William Pierson ...1869
*Thomas F. Cullen.....1870
*Charles Hasbrouck....1871
*Franklin Gauntt 1872
*T. J. Thomason.....1873
*G. H. Larison.....1874
*Wm. O'Gorman.....1875
*Jno. V. Schenck.....1876
Henry R. Baldwin.....1877
*John S. Cook.....1878
Alex. W. Rogers.....1879
*Alex. N. Dougherty....1880
*Lewis W. Oakley..... .1881
*John W. Snowden.....1882
*Stephen Wickes.....1883
P. C. Barker.....1884
*Joseph Parrish.....1885
Charles J. Kipp.....1886
John W. Ward.....1887
H. Genet Taylor.....1888
*B. A. Watson... 1889
*Jas. S. Green..... 1890
Elias J. Marsh..... 1891
George T. Welch.....1892
John G. Ryerson..... 1893
O. H. Sproul... 1894
William Elmer.....1895
T. J. Smith..... 1896
David C. English..... 1897
C. R. P. Fisher.....1898
Luther M. Halsey.....1899
*William Pierson.....1900

HONORARY MEMBERS.

*DAVID HOSACK, New York 1827
*J. W. FRANCIS 1827
*JOHN CONDICT, Orange 1830
*USHER PARSONS, Rhode Island 1839
*REUBEN D. MURPHY, Cincinnati 1839
*ALBAN G. SMITH, New York 1839
*WILLARD PARKER, New York 1842
*VALENTINE MOTT, New York 1843
*JONATHAN KNIGHT, New Haven 1848
*NATHANIEL CHAPMAN, Philadelphia 1848
*ALEXANDER H. STEPHENS, New York 1848
*JOHN C. WARREN, Boston 1849
*LEWIS C. BECK, New York 1850
*JOHN C. TORREY, New York 1850
*GEORGE B. WOOD, Philadelphia 1853
*H. A. BUTTOLPH, Short Hills, N. J 1854
*ASHBEL WOODWARD, Franklin, Conn 1861
*THOMAS W. BLATCHFORD, Troy, N. Y 1886
*JEREMIAH S. ENGLISH, Manalapan, N. J 1867
*STEPHEN WICKES, Orange, N. J 1868
*S. O VANDERPOOL, Albany, N. Y 1872
*JOSEPH PARRISH, Burlington, N. J 1872
*FERRIS JACOBS, Delhi, N. Y 1872
C A. LINDSLEY, New Haven, Conn 1872
*WM. PEPPER, Philadelphia 1874
S. WIER MITCHELL, Philadelphia 1876
CYRUS F BRACKETT, Princeton, N. J 1880
*JOSEPH C. HUTCHINSON, Brooklyn, N. Y 1880
THOMAS ADDIS EMMETT, New York 1884
*ISAAC E TAYLOR, New York 1884
*D. HAYES AGNEW, Philadelphia 1886
*JOS. LEIDY, Philadelphia 1886
FREDERICK S. DENNIS, New York 1893
*JOHN H. RIPLEY, New York 1893
VIRGIL P GIBNEY, New York 1893
*WILLIAM PIERSON, Orange, N. J 1894
ABRAM JACOBI, New York 1896
*VIRGIL M. D. MARCY, Cape May City 1896
*SAMUEL H. PENNINGTON, Newark, N. J 1897
ALFRED A. WOODHULL, Princeton, N. J 1901

PERMANENT DELEGATES.

ATLANTIC—THEO. H. BOYSEN, Egg Harbor City. 1896
B. C. PENNINGTON, Atlantic City..... 1900
W. B. STEWART, Atlantic City..... 1900
BERGEN—HENRY C. NEER, Park Ridge..... 1892
DANIEL A. CURRIE, Englewood 1899
DAVID ST. JOHN, Hackensack..... 1900
SAMUEL E. ARMSTRONG, Rutherford..... 1901
BURLINGTON J. HOWARD PUGH, Burlington..... 1892
N. NEWLIN STOKES, Moorestown..... 1895
A. W. TAYLOR, Beverly..... 1898
CAMDEN—ALEXANDER MARCY, Riverton..... 1892
JAMES M. RIDGE, Camden 1892
DUNCAN W. BLAKE, Gloucester..... 1895
ONAN B. GROSS, Camden..... 1895
WILLIAM H. IRELAND, Camden..... 1895
DANIEL STROCK, Camden..... 1899
WILLIAM H. ISZARD, Camden..... 1899
WILLIAM A. DAVIS, Camden..... 1900
CUMBERLAND—S. T. DAY, Port Norris..... 1899
M. K. ELMER, Bridgeton 1900
T. J. SMITH, Bridgeton 1900
O. H. ADAMS, Vineland..... 1900
ESSEX—ARTHUR WARD, Newark 1892
CHARLES YOUNG, Newark..... 1892
JOSEPH C. YOUNG, Newark. 1892
GEORGE BAYLES, Orange..... 1896
HERMAN C. BLEYLE, Newark..... 1896
WILLIAM J. CHANDLER, South Orange..... 1896
EDWARD J. ILL, Newark 1896
GEORGE R. KENT, Newark..... 1896
DANIEL M. SKINNER, Belleville..... 1896
CHARLES H. BAILEY, Bloomfield..... 1898
THOMAS S. FITCH, Orange..... 1898
RICHARD C. NEWTON, Montclair..... 1898
WILLIAM RANKIN, Newark..... 1898
JOSHUA W. READ, Newark 1898
GEORGE A. VAN WAGENEN, Newark..... 1898
JAMES T. WRIGHTSON, Newark..... 1898

ESSEX—PETER V. P. HEWLETT, Newark.....1900
THERON Y. SUTPHEN, Newark 1900
CHARLES F. UNDERWOOD, Newark.....1900
L. EUGENE HOLLISTER, Newark.....1900
CHARLES D. BENNETT, Newark.....1900
HENRY B. WHITEHORNE, Verona 1900
WILLIAM B. GRAVES, East Orange.....1900
ROBERT G. STANWOOD Newark.....1900
THOMAS W. HARVEY, Orange.....1901
GLOUCESTER—GEORGE E. READING, Woodbury.....1893
GEORGE C. LAWS, Paulsboro.....1895
JAMES HUNTER, JR., Westville.....1898
HUDSON—J. D. MCGILL, Jersey City 1892
ROMEO F. CHABERT, Hoboken.....1892
J. A. EXTON, Arlington.....1898
JOS. M. RECTOR, Jersey City.....1900
FREDERICK M. CORWIN, Bayonne.....1900
GEO. E. MCLAUGHLIN, Jersey City 1900
MORTIMER LAMPSON, Jersey City.....1900
T. R. CHAMBERS, Jersey City.....1900
HUNTERDON—ISAAC S. CRAMER, Flemington.....1892
W. S. CREVELING, Valley.....1896
MERCER—CORNELIUS SHEPHERD, Trenton.....1892
R. R. ROGERS, SR., Trenton.....1895
DAVID WARMAN, Trenton.....1897
ELMER BARWIS, Trenton.....1898
THOS. H. MACKENZIE, Trenton.....1900
C. F. ADAMS, Trenton 1900
J. C. FELTY, Trenton.....1900
MIDDLESEX—EDWARD B. DANA, Metuchen.....1898
AMBROSE TREGANOWAN, South Amboy.....1898
F. M. DONAHUE, New Brunswick.....1900
J. G. WILSON, Perth Amboy.....1901
MONMOUTH—HENRY MITCHELL, Asbury Park.....1892
D. MCLEAN FORMAN, Freehold.....1901
EDWIN FIELD, Red Bank.....1901
P. B. PUMYEA, Allentown 1901
GEORGE F. WILRUR, Asbury Park.....1901
F. C. PRICE, Imlayston.....1901
SAMUEL JOHNSON, Asbury Park.....1901

MORRIS—I. W. CONDICT, Dover.....1892
JOHN STIGER, Mendham.....1892
LEVI FARROW, Middle Valley.....1895
CUTHBERT WIGG, Boonton.....1899
JAMES DOUGLASS, Morristown.....1901
STEPHEN PIERSON, Morristown.....1901
F. W. FLAGGE, Rockaway.....1901
CALVIN ANDERSON, Madison.....1901
PASSAIC—W. B. JOHNSON, Paterson.....1892
P. A. HARRIS, Paterson.....1893
GEORGE H. BALLERAY, Paterson.....1896
JOHN L. LEAL, Paterson.....1899
W. K. NEWTON, Paterson.....1899
CALVIN TERRIBERRY, Paterson.....1899
C. H. SCRIBNER, Paterson.....1900
ROBT. M. CURTS, Paterson.....1900
JAMES M. STEWART, Paterson.....1900
JOHN T. GILLSON, Paterson.....1900
MATTHEW A. MACKINTOSH, Paterson.....1900
SALEM—B. A. WADDINGTON, Salem.....1893
F. BILDERBACK, Salem.....1899
W. H. JAMES, Pennsville.....1900
HENRY CHAVANNE, Salem.....1900
SOMERSET—S. O. B. TAYLOR, Millstone.....1897
J. P. HECHT, Raritan.....1898
A. L. STILLWELL, Somerville.....1900
SUSSEX—SIDNEY B. STRALEY, Andover.....1899
E MORRISON, Newton.....1899
B. W. FERGUSON, Beemerville.....1899
UNION—ALONZO PETTIT, Elizabeth.....1893
E. B SILVERS, Rahway.....1893
J. ACKERMAN COLES, Scotch Plains.....1896
T. H. TOMLINSON, Plainfield.....1896
JAMES S. GREEN, Elizabeth.....1900
N. L. WILSON, Elizabeth.....1900
W. U. SELOVER, Rahway.....1900
WARREN—WILLIAM H. MCGEE, Belvidere.....1896
ALVA C. VAN SYCKLE, Hackettstown.....1899

Members of District Medical Societies

REPRESENTED AT THE

ANNUAL MEETING, 1901.

ATLANTIC COUNTY.

District Society organized June 7, 1880. Annual meeting first week in February.

T. H. Boysen, *Pres.*,	*Egg Harbor City*	Emery Marvel,	*Atlantic City*
Wm. E. Darnall, *V.-Pres.*,	*Atlantic City*	Philip Marvel,	"
Theo. Senseman, *Sec. & Treas.*,	*Atlantic City*	H. D. Nichols,	"
A. B. Shimer, *Rep.*,	"	James North,	"
W. M. Barnes,	"	V. W. Nutzler,	"
E. C. Chew,	"	B. C. Pennington,	"
A. D. Cuskaden,	"	W. H. Pollard,	"
J. M. Elmer,†	*Egg Harbor City*	W. M. Powell,	"
W. B. Fayerman,	*Atlantic City*	Eugene L. Reed,	"
C. M. Fish,	"	Thos. K. Reed,	"
C. Garrabrant,	"	Talbot Reed,	"
G. R. Gehring,	*Bakersville*	Edward A. Reiley,	"
W. M. Hodges,	"	Walter Reynolds,	"
E. E. Howard,	*Atlantic City*	E. S. Sharpe,	"
H. C. James,†	*May's Landing*	L. R. Sounder,	"
C. R. Johnson,	*Atlantic City*	J. W. Snowball,	"
J. Addison Joy,	"	W. B. Stewart,	"
E. H. Madden,†	*Absecon*	M. L. Somers,	"
		J. B. Thompson,	"
		E. Bart Webster,	"

No. members, 38.

BERGEN COUNTY.

District Society reorganized February 28, 1854. Annual meeting second Tuesday in April

Max Wyler, *Pres.*,	*Fort Lee*	David St. John, *Treas.*,	*Hackensack*
Joseph Huger, *V.-Pres.*,	"	J. W. Proctor, *Rep.*,	*Englewood*
Daniel A. Currie, *Sec'y*,	*Englewood*		

Sam'l E. Armstrong, *Rutherford*
M. S. Ayres, *Fairview*
H. M. Banks, *Englewood*
Chas. D. Brooks, *Hackensack*
M. Blinckston, *Westwood*
Chas. Calhoun, *Rutherford*
E. E. Conover, *Hasbrouck Heights*
Edgar K. Conrad, *Hackensack*
J. F. Demund, *Ridgewood*
H. C. Elsing, *Ridgefield Park*
Geo. Bancroft Gale, *Rutherford*
T. N. Gregory, *Englewood*
John J. Haring, *Tenafly*
Fred. F. Hallett, *Hackensack*
Eugene Jehl, *Park Ridge*
J. B. W. Lansing, *Tenafly*
Howard McFadden, *Hackensack*
H. C. Neer, *Park Ridge*
L. B. Parsell, *Closter*
J. E. Pratt, *Schraalenburgh*
B. D. Stone, *Westwood*
A. A. Swayze, *Hackensack*
J. W. Terry, *Englewood*
Theo. E. Townsend, *Westwood*
A. L. Vandewater, *Hackensack*
Myron Van Horn, *Englewood*
William L. Vroom, *Ridgewood*
Carrie H. Van Horn, *Englewood*
J. Talmage Wyckoff, *Leonia*
F. H. White, *Hackensack*
Samuel J. Zabriskie, *Westwood*

No. members, 36.

BURLINGTON COUNTY.

Society organized May 19, 1829. Meets third Tuesday in January, April, June and October Annual meeting second Tuesday in April.

Wm. P. Melcher, *Pres.*, *Mount Holly*
I. W. Hollingshead, *V.-Pres.*, *Moorestown*
A. W. Taylor, *Sec'y*, *Beverly*
E. Hollingshead, *Treas.*, *Pemberton*
Joseph Stokes, *Rep.*, *Moorestown*
J. D. Janney, *Censor*, *Cinnaminson*
Emma P. Weeks, " *Riverside*
R. H. Parsons, " *Lumberton*
Irene D. Young, *Hist.*, *Bordentown*
David Baird, jr., *Florence*
John B. Cassaday, *Burlington*
J. E. Dubell, *Columbus*
John J. Flynn, *Mount Holly*
F. A. Gauntt, *Burlington*
W. E. Hall, "
J. R. Haines, *Mount Holly*
Jacob C. Haines, *Vincentown*
Alex. Marcy, *Riverton*
Wm. L. Martin, *Rancocas*
W. C. Parry, *Lumberton*
T. T. Price, *Tuckerton*
Elmer D. Prickett, *Mount Holly*
J. H. Pugh, *Burlington*
Lewis L. Sharp, *Medford*
A. H. Small, *Riverside*
W. H. Shipps, *Bordentown*
F. S. J. Stoddart, *Reydal, Pa.*
N. N. Stokes, *Moorestown*
F. G. Stroud, "

CONTRIBUTING MEMBER.

William Martin, *Bristol, Pa.*

HONORARY MEMBERS.

Chas. P. Noble, *1633 Locust St., Philadelphia, Pa.*
Chas. H. Thomas, *1509 Locust St., Philadelphia, Pa.*
E. P. Townsend, *Billings, Mont.*

No. members, 29.

CAMDEN COUNTY.

Organized August 14, 1846. Annual meeting second Tuesday in May.

Wm. R. Powell, *Pres.*,	*Camden*	Wm. S. Jones,	*Camden*
John G. Doran, *V.-Pres.*,	"	Wm. W. Kain,	"
Paul M. Mecray, *Sec'y*,	"	Wm. J. Kelchner,	"
Ernest S. Ramsdell, *Treas.*,	"	Grant E. Kirk,	"
Jos. H. Wills, *Rep.*,	"	John F. Leavitt,	"
H. H. Sherk, *Hist.*,	"	Adrinette LeFevre,	*Blackwood*
Joseph S. Baer,	"	A. H. Lippincott,	*Camden*
W. G. Bailey,	"	Alexander McAllister,	"
Duncan W. Blake,	*Gloucester*	Alexander Marcy,	*Riverton*
Chas. S. Braddock,	*Haddonfield*	Frederick W. Marcy,	*Camden*
Walter S. Bray,	*Camden*	John W. Marcy,	*Merchantville*
Philip W. Beale,	"	Marcus K. Mines,	*Camden*
Dowling Benjamin,	"	J. W. Martindale,	"
John K. Bennett,	*Gloucester*	Jos. L. Nicholson,	"
Sylvan G. Bushey,	*Camden*	Milton W. Osmun,	"
Robert Casperson,	"	Howard F. Palm,	"
Wm. A. Davis,	"	Wm. H. Pratt,	"
Clarence B. Donges,	"	Sophia Presley,	"
John W. Donges,	"	Emma M. Richardson,	"
Joel W. Fithian,	"	Jas. M. Ridge,	"
E. L. B. Godfrey,	"	Frank N. Robinson,	"
Onan B. Gross,	"	Edw. A. Y. Schellinger,	"
J. J. Haley,	*Gloucester*	Chas. H. Shivers,	*Haddonfield*
Levi B. Hirst,	*Camden*	J. Anson Smith,	*Blackwood*
Conrad G. Hoell,	"	John R. Stevenson,	*Haddonfield*
Frank L. Horning,	"	Daniel Stout,	*Berlin*
Jos. E. Hurff,	*Blackwood*	Daniel Strock,	*Camden*
Wm. H. Ireland,	*Camden*	H. Genet Taylor,	"
Wm. H. Iszard,	"	Wm. A. Westcott,	*Berlin*
Harry Jarrett,	"	W. P. Wingender,	"
Wm. B. Jennings,	*Haddonfield*	E. B. Woolston,	*Marlton*

HONORARY MEMBERS.

G. W. Boughman, *Marshalltown*
New Castle Co., Delaware
Richard C. Dean, *U. S. Navy*
Chas. G. Garrison, *Merchantville*
J. W. Hewlings, *Moorestown*
J. G. Young, *Philadelphia, Pa.*
Alex. M. Mecray, *Maple Shade*
J. Orlando White, *Camden*

No. members, 62.

CAPE MAY COUNTY.

Society organized March 12, 1885. Meets first Tuesday in April and November.

J. S. Douglass, *Pres.*, *Tuckahoe*
Joseph Marshall, *V.-Pres.*, "
N. A. Cohen, *Sec'y*, *Wildwood*
Randolph Marshall, *Treas.*, *Tuckahoe*
W. S. Leaming, *Censor*, *Cape May*
Wm. A. Lake, *Censor*, *Green Creek*
V. M. D. Marcey, *Censor*, *Cape May*
B. T. Abbott, *Ocean City*
C. B Corson, *South Seaville*
I. M. Downs, *Court House*
Anna Hard, ——
A. L. Leach, *Cape May*
James Mecray, "
Emlen Physic, "
Eugene Way, *Dennisville*
J. Way, *Cape May Court House*
W. R. Wales, *Cape May*

HONORARY MEMBERS.

Chas. M. Gandy, *U. S. Army*
Coleman Leaming, *Cape May Court House*
Jonathan Leaming, *Cape May Court House*
J. H. Ingram, *China*

No members, 18.

CUMBERLAND COUNTY.

Society organized December 8, 1818. Annual meeting second Tuesday in April.

L. L. Hand, *Pres.*, *Leesburg*
G. E. Day, *V.-Pres.*, *Millville*
J. C. Applegate, *Sec'y*, *Bridgeton*
Jos. Tomlinson, *Treas.*, "
S. T. Day, *Rep.*, *Port Norris*
O. H. Adams, *Vineland*
F. M. Bateman, *Cedarville*
N. H. Burt, *Fairton*
Samuel Bennett, *Millville*
Alfred Cornwell, *Bridgeton*
C. B. Cunningham, *Vineland*
T. G. Davis, *Bridgeton*
E. L. Diament, "
Mary J. Dunlap, *Vineland*
H. W. Elmer, *Bridgeton*
M. K. Elmer, "
Edward Fogg, "
Walter P. Glendon, *Cedarville*
G. L. Harker, *Port Norris*
Jos. T. D. Howard, *Shiloh*
Lester Hummell, *Greenwich*
A. R. Judson, *New Port*
Reba Lloyd, *Bridgeton*
Samuel D. Mayhew, "

D. H. Miller,	*Millville*	W. H. C. Smith,	*Millville*
W. L. Newell,	"	S. M. Snyder,	*Greenwich*
D. H. Oliver,	*Bridgeton*	Ellsmore Stites,	*Bridgeton*
L. B. Phillips,	*Deerfield*	J. R. C. Thompson,	"
W. F. Sawyer,	*Vineland*	J. W. Wade,	*Millville*
Jos. Sheppard,	*Bridgeton*	C. W. Wilson,	*Vineland*
T. J. Smith,	"	S. M. Wilson,	*Bridgeton*

ASSOCIATE MEMBERS.

W. E. Ashton,	*Philadelphia, Pa.*	Chas. P. Noble,	*Philadelphia, Pa.*
J. M. Barten,	" "	Chas. O. Oliver,	" "
J. Chalmers DaCosta,	" "	David Reisman,	" "
B. C. Hirst,	" "	H. A. Hare,	" "
W. W. Keen,	" "		

HONORARY MEMBER.

Ephraim Bateman, *Cedarville.*

No. members, 38.

ESSEX COUNTY.

Society organized June 8, 1816. Annual meeting first Tuesday in April.

Aaron K. Baldwin, *Pres.*,	*Newark*	Edwin L. Burns,	*Newark*
James T. Wrightson, *V.-Pres.*	"	Robert L. Burrage,	*E. Orange*
Archibald Mercer, *Sec'y*,	"	Carl Buttner,	*Orange*
Charles D. Bennett, *Treas.*,	"	William E. Carroll,	*Newark*
William S. Disbrow, *Rep.*,	"	L. W. Case,	*Montclair*
W. B. Arnold,†	*Orange*	Douglas A. Cater,	*Orange*
Maurice Asher,	*Newark*	William J. Chandler,	*So. Orange*
Charles H. Bailey,	*Bloomfield*	Albion E. Christian,	*Irvington*
Samuel H. Baldwin,	*Newark*	J. Henry Clark,	*Newark*
George Bayles,	*Orange*	Henry L. Coit,	"
Frederick W. Becker,	*Newark*	Horace C. Cary,	"
Angelo R. Bianchi,	"	Everit P. Courtright,	"
Arthur W. Bingham,	*E. Orange*	Theodore W. Corwin,	"
Herman C. Bleyle,	*Newark*	Mathias S. Crane,	"
John H. Bradshaw,	*Orange*	R. F. Chapman,†	*Verona*
Rudolph Braun,	*Newark*	William H. K. Davis,	*E. Orange*
William M. Brien,	*Orange Valley*	John Dennis,	*Newark*
James S. Brown,	*Montclair*	Winfield S. DeVausney,	"
William Buerman,	*Newark*	Frank Devlin,	"
Charles V. Burke,	"	Rich'd I. P. Dieffenbach,	*Newark*

Daniel M. Dill,	*Newark*	John Hemsath,	*Newark*
Walter Dodge,	*Orange*	H. C. Hendry,†	"
Arthur C. Dougherty,	*Newark*	Herman C. H. Herold,	"
John L. Duryee,	"	Peter V. P. Hewlett,	"
Wells P. Eagleton,	"	Livingston S. Hinckley,	"
Stanton S. Eddy,	*E. Orange*	J. S. Hoffman,†	"
D. J. Edwards,†	*Vailsburg*	Edgar Holden,	"
Sarah M. Edwards,	*Newark*	L. Eugene Hollister,	"
Julius Egge,	"	Ralph H. Hunt,	*E. Orange*
David E. English,	*Millburn*	Charles L. Ill,	*Newark*
James R. English,	*Newark*	Edward J. Ill,	"
Joseph Fewsmith,	"	Frederick C. Jacobson,	"
J. P. Fitzgerald,†	"	Jotham C. Johnson,	"
Thomas S. Fitch,	*Orange*	W. M. Johnson,†	"
Richard P. Frances,	*Montclair*	William A. Judson,	"
Richard D. Freeman,	*So. Orange*	William F. Klein,	"
Albert Frey,	*Newark*	George A. Kent,	"
Ruel S. Gage,	"	Charles J. Kipp,	"
Frank D. Garrison,	*So. Orange*	Joseph M. W. Kitchen,	*E. Orange*
William Gauch,	*Newark*	Francis E. Knowles,	*So. Orange*
Isabel M. Geddes,	"	Henry A. Korneman,	*Newark*
Robert F. Gillin,	*Newark*	Stephen G. Lee,	*Orange*
Herman A. Glatzmayer,	"	Charles Lehlbach,	*Newark*
William M. Goodwin,	"	Maria L. Lefort,†	"
William B. Graves,	*E. Orange*	Jesse D. Lippincott,	"
Thomas N. Gray,	"	Frank W. Lockwood,	*E. Orange*
Solomon Greenbaum,	*Newark*	Herbert W. Long,	*Newark*
Chauncey B. Griffiths,	"	Thomas W. Loweree,	"
Charles W. Hagen,	"	Calista V. Luther,	*So. Orange*
John F. Hager,	"	E. M. Lyon,†	*Newark*
John F. Hagerty,	"	Henry D. McCormick,	*Verona*
Frederick W. Hagney,	"	Floy McEwen,	*Newark*
A. H. Hahn,†	"	William H. McKenzie,	"
Eleanor Haines,	"	Augusta M. Madison,	"
Levi W. Halsey,	*Montclair*	George T. Magraw,	"
Edward H. Hamill,	*Newark*	James M. Maghee,	*Orange*
Thomas N. Harvey,	*Orange*	William H. Martland,	*Newark*
E. Zeh Hawkes,	*Newark*	Henry E. Mathews,	*Orange*
Joseph H. Haydon,	"	Sarah R. Mead,	*Newark*

Frank B. Meeker,	*Newark*	George A. Rogers,	*Newark*
Pancrazio M. Megaro,	"	Robert H. Rogers,	"
F. L. Meyer,†	"	George W. Rolerfort,	"
Elizabeth Mercelis,	*Montclair*	Mefford Runyon,	*South Orange*
Andrew M. Mills,	*Newark*	Charles A. Schneider,	*Newark*
Winthrop D. Mitchell,	*E. Orange*	Wm. H. Schopfer,	*Newark*
Clement Morris,	*Newark*	Charles A. Schureman,	"
Eugene W. Murray,	"	Emanuel Schwartz,	"
Frederick C. Nadler,	"	Edward Sealy,	"
Albert B. Nash,	"	Edgar C. Seibert,	*Orange*
Emanuel Newman,	"	William F. Seidler,	*Newark*
Anna B. Newton,	*So. Orange*	Marco Seidman,	"
Richard C. Newton,	*Montclair*	Sumner Shailer,	"
Henry W. Nolte,	*Newark*	Elbert S. Sherman,	"
Victor Personnet,	"	William F. Shick,	"
Edward E. Peck,	*Caldwell*	M. Herbert Simmons,	*Orange*
William Pennington,	*Irvington*	Daniel M. Skinner,	*Belleville*
Edward D. Phelan,	*Newark*	Anna L. Smith,	*Montclair*
Thomas F. Phelan,	*Orange*	E. Fayette Smith,	*Newark*
George B. Philhower,	*Nutley*	D. Winans Smith,	"
Joseph E. Pollard,	*Newark*	Joseph F. Somerhof,	"
Daniel W. Poor,	*E. Orange*	Edward Staehlin,	"
Katherine Porter,	*Orange*	Robert G. Stanwood,	"
Robert C. Potter,	*Newark*	Robert M. Sutphen,	"
Henry A. Pulsford,	*So. Orange*	Theron Y. Sutphen,	"
John M. Rand,	*Newark*	J. S. Sutphen,†	"
Charles H. Randall,	"	Charles E. Teeter,	"
William Rankin,	"	J. E. Francis Tetreault,	*Orange*
Joshua W. Read,	"	Frederick W. Thum,	*Newark*
Robert C. Ribbans,	"	Charles W. Titus,	"
Edward M. Richman,	"	Henry A. Towle,	"
Philip Ricord,	"	Sidney A. Twinch,	"
Charles D. Ripley,	"	Charles F. Underwood,	"
Samuel E. Robertson,	"	Herbert B. Vail,	*Belleville*
Benjamin A. Robinson,	"	M. H. C. Vail,†	*Vailsburg*
Manning N. Robinson,	"	Sarah E. Van Duyne,	*Newark*
William D. Robinson,	*E. Orange*	Maria M. Vinton,	*Orange*
Hugh P. Roden,	*Newark*	Geo. A. Van Wagenen,	*Newark*
William J. Roeber,	"	George N. Wait,	"

David L. Wallace,	*Newark*	Edward H. White,	*Newark*
Henry J. F. Wallhauser,	"	William H. White,	*Bloomfield*
Aaron C. Ward,	"	Henry B. Whitehorne,	*Verona*
Arthur Ward,	"	Albert Wickman,	*Newark*
Edwin M. Ward,	*Bloomfield*	W. Stockton Wilson,	"
Leslie D. Ward,	*Newark*	Edward E. Worl,	"
George L. Warren,	"	James A. Wormley,	"
W. H. Warren,†	"	George O. Welshman,	"
Walter S. Washington,	"	Charles Young,	"
Frederick Webner,	"	Joseph C. Young,	"
Lars I. Wendleboe,	"	Charles M. Zeh,	"

HONORARY MEMBER.

Thomas Dunn English, *Newark.*

No. members, 218.

GLOUCESTER COUNTY.

Society organized December, 1818. Annual meeting third Tuesday in January.

Samuel F. Stanger, *Pres.*,	*Harrisonville*	E. M. Duffield,	*Glassboro*
Samuel F. Ashcraft, *V.-Pres.*,	*Mullica Hill*	J. Gaunt Edwards,	*Williamstown*
Geo. E. Reading, *Sec'y & Treas.*,	*Woodbury*	C. Frank Fisler,	*Clayton*
L. M. Halsey, *Censor*,	*Williamstown*	T. Franklin Gifford,	*Woodbury*
Jas. Hunter, Jr., *Censor*,	*Westville*	Chas. S. Heritage,	*Glassboro*
Harry A. Stout, *Censor*,	*Wenonah*	Eugene Z. Hillegass,	*Mantua*
Wesley Grant Simmons, *Rep.*,	*Swedesboro*	Joseph M. Husted,	*Clayton*
Geo. W. Bailey,	*Wenonah*	George C. Laws,	*Paulsboro*
Wm. Brewer,	*Woodbury*	James G. McClure,	*Williamstown*
Ralph E. Buck,	*Newfield*	Eugene T. Oliphant,	*Bridgeport*
Charles M. Burk,	*Clarksboro*	Cyrus B. Phillips,	*Hurfville*
Henry C. Clark,	*Woodbury*	Albert Porch,	*Clayton*
Henry B. Diverty,	"	U. S. Grant Sparks,	*Mantua*
		P. E. Stilwagon,	*Bridgeport*
		William A. Stratton,	*Woodbury*
		B. A. Waddington,	*Salem*
		Howard A. Wilson,	*Woodbury*

HONORARY MEMBERS.

Judson Daland,	*Philadelphia*	William H. Iszard,	*Camden*
E. E. DeGrofft,	*Camden*	Mordecai Price,	*Philadelphia*
Hobart A. Hare,	*Philadelphia*	Charles S. Turnbull,	"

No. members, 30.

HUDSON COUNTY.

Society organized October 1, 1851. Annual meeting first Tuesday in May.

John C. Parsons, *Pres.*,	*Jersey City*	S. Herbert Culver,	*Jersey City*
Charles H. Purdy, *Sec'y*,	"	Romeo F. Chabert,	*Hoboken*
Henry H. Brinkerhoff, *Treas.*,	*Jersey City*	Frederick M. Corwin,	*Bayonne*
H. H. Burnette, *Rep.*,	*Hoboken*	Gordon K. Dickinson,	*Jersey City*
Henry Allers,	*Harrison*	Florence DeHart,	"
Ulamer Allen,	*Jersey City*	R. H. Dinglestedt,	*Hoboken*
E. C. Armstrong.	*Union*	Edwin K. Dunkle,	*Jersey City*
E. Mills Baker,	*Jersey City*	Lucius F. Donohue,	*Bayonne*
John J. Bauman,	"	Alexander Dallas,	"
Louis Baumann,	"	C. L. DeMerritt,	*West Hoboken*
H. J. Bogardus,	"	L. W. Dodson,	*Jersey City*
W. S. Boyd,	"	Arthur DeLong,	"
N. G. Bozeman,	"	Benjamin Edge,	"
Edward P. Buffett,	"	John R. Everett,	"
John J. Broderick,	"	C. E. Everett,	"
Edward L. Bull,	"	James A. Exton,	*Arlington*
Oliver R. Blanchard,	"	John Faber,	*Jersey City*
Frank F. Bowyer,	"	Joseph F. Finn,	"
J. G. Lewis Borgmeyer,	*Bayonne*	William F. Faison,	"
Burdette P. Craig,	*Jersey City*	N. Frederick Feury,	"
Charles B. Converse,	"	William Friele,	"
John E. Corrigan,	"	Howard S. Forman,	"
Talbot R. Chambers,	"	Archibald C. Forman,	*Bayonne*
Charles W. Cropper,	"	George D. Fyfe,	*Jersey City*
J. A. Chard,	"	C. H. Finke,	"
John T. Connelly,	*Bayonne*	Leonard J. Gordan,	"
F. M. Child,	*Hoboken*	Frank D. Gray,	"
D. LeR. Culver,	*Jersey City*	Charles A. Gilchrist,	*Hoboken*
Geo. M. Culver,	"	H. W. A. Hasse,	"
		John P. Henry,	*Jersey City*
		Christopher D. Hill,	"

Peter Hoffman,	*Jersey City*	Walter Pocock,	*Bayonne*
William L. Hetherington,	"	Gertrude Rochester,	*Jersey City*
Edward P. Hart,	"	Murray E. Ramsey,	"
Samuel A. Helfer,	*Hoboken*	Joseph M. Rector,	"
J. Morgan Jones,	*Jersey City*	Frederick C. Robertson,	"
Eugenia Jaques,	"	Henry B. Rue,	*Hoboken*
Calvin F. Kyte,	"	Joseph H. Rosenkranz,	"
A. John Kirsten,	"	E. T. Steadman,	"
Richard Kuehne,	"	W. Steadman,	"
Wm. F. Kudlich,	*Hoboken*	A. A. Strasser,	*Arlington*
W. C. Lewis,	*Jersey City*	Josiah F. Sanborn,	*Bayonne*
John T. Luck,	*Union*	Pliny F. Stevens,	"
Chas. K. Law,	*Jersey City*	C. Irving Simon,	*Hoboken*
Henry H. Lynch,	"	Richard Schlemm,	*Union*
Mortimer Lampson,	"	F. D. Steelwagon,	*Union*
F. E. Lambert,	"	Geo. W. Shera,	*Jersey City*
Edward Mulvaney,	*Jersey City*	Henry Spence,	"
John J. Mooney,	"	Robert Stewart,	"
T. C. McNamara,	*Hoboken*	George H. Sexsmith,	*Bayonne*
John D. McGill,	*Jersey City*	H. Melville Smith,	*So Orange*
George E. McLaughlin,	"	Hamilton Vreeland,	*Jersey City*
John J. McLean,	"	S. R. Woodruff,	*Bayonne*
Frank W. Mallalieu,	"	F. C. Wolff,	*Hoboken*
Edward G. Marks,	*Arlington*	O. A. Wiegand,	*Jersey City*
John Nevin,	*Jersey City*	A. J. Walschied,	*Union*
B. S. Pollock,	"	Wm. Perry Watson,	*Jersey City*
William J. Parker,	"	John E. West,	"
Imanuel Pyle,	"	Joseph Wolfson,	"
Wallace Pyle,	"		

No. members, 117.

HUNTERDON COUNTY.

Society organized June 12, 1821. Annual meeting fourth Tuesday in April.

Geo. W. Bartow, *Pres.*,	*Three Bridges*	Geo. N. Best,	*Rosemont*
		W. E. Berkaw,	*Annandale*
O. H. Sproul, *Sec'y*,	*Flemington*	W. S. Creveling,	*Valley*
I. S. Cramer, *Treas.*,	"	E. W. Closson,	*Lambertville*
Theo. W. Bebout,†	*Sterling, Morris Co.*	J. H. Ewing,	*Flemington*
		Theo. B. Fulper,†	*Glen Gardner*

Frank Grim,†	*Baptistown*	E. H. Moore,	*White House*
F. L. Johnson,	*Stanton*	A. B. Nash,†	*Frenchtown*
M. D. Knight,†	*Clinton*	Geo. L. Romine,	*Lambertville*
F. W. Larison,†	*Lambertville*	Howard Servis,†	*Junction*
E. D. Leidy,	*Flemington*		

HONORARY MEMBERS.

Mathias Abel,	*Providence, R. I.*	W. D. Wolverton,	*U. S. Army Retired*
H. P. Loomis,	*New York City*		

No. members, 19.

MERCER COUNTY.

Society organized May 23, 1848. Annual meeting second Tuesday in May.

George H. Parker, *Pres.*,	*Trenton*	E. S. Hawke,	*Trenton*
Alexander Armstrong, *V.-Pres.*,	*Trenton*	A. I. Hunt,	*Hamilton Square*
		A. Dunbar Hutchinson,	*Trenton*
Geo. R. Moore, *Sec'y.*,	"	J. S. Jamieson,	"
Ira M. Shepherd, *Treas.*,	"	Mozart Jenkins,	"
Charles F. Adams,	"	Wm. S. Lalor,	"
Charles L. Allen,	"	Lyman Leavitt,	"
Elmer Barwis,	"	E. K. Fee,	*Lawrenceville*
Henry M. Beatty,	"	Thos. H. McKenzie,	*Trenton*
Charles P. Britton,	"	Walter Madden,	"
A. T. Bruere,	"	Benj. W. McGalliard,	"
John Bruyère,	"	Chas. H. McIlwaine,	"
Wm. M. Carling,	"	H. G. Norton,	"
J. F. Chattin,	"	N. B. Oliphant,	"
W. A. Clark,	"	Elmer H. Rogers,	"
J. C. Graythorn,	"	R. R. Rogers, Sr.,	"
Paul L. Cort,	"	R. R. Rogers, Jr.,	"
Henry B. Costill,	"	Martin W. Reddan,	"
Frank V. Cantwell,	"	George M. Ridgeway,	"
A. H. Dey,	"	Joseph B. Shaw.	"
P. J. Dorety,	"	Cornelius Shepherd,	"
William Elmer,	"	Geo. N. J. Sommer,	"
George H. Franklin,	*Hightstown*	W. D. Stevenson,	"
J. C. Felty,	*Trenton*	G. Schoening,	"
S. Freeman,	"	Wm. McD. Struble,	"
W. J. Hall,	"	G. E. Titus,	*Hightstown*

Irvine Turner, *Titusville*
W. B. Van Duyn, *Trenton*
John W. Ward, "
David Warman, "
J. H. Wikoff, *Princeton*
William Wilbur, *Hightstown*
David F. Weeks, *Trenton*
P. W. Yard, "

No. members, 59.

MIDDLESEX COUNTY.

Society organized June 16. 1816. Annual meeting third Wednesday in April.

A. C. Hunt, *Pres.*, *Metuchen*
Edward E. Haines, *V.-Pres.*, *South Amboy*
D. Stephens, *Sec'y*, *New Brunswick*
D. C. English, *Treas.*, "
A. L. Smith, *Rep.*, "
Thomas Alslop, "
H. R. Baldwin, "
J. J. Bissett, *Paterson*
S. V. D. Clark, *New Brunswick*
Edward B. Dana, *Metuchen*
F. M. Donahue, *New Brunswick*
F. C. Henry, *Perth Amboy*
Henry Levy, *Perth Amboy*
Wm. V. McKenzie, *Metuchen*
D. L. Morrison, *New Brunswick*
W. M. Moore, "
Wm. E. Ramsey, *Perth Amboy*
F. E. Riva, *Milltown*
C. M. Slack, *New Brunswick*
J. L. Suydam, *Jamesburg*
H. C. Symmes, *Cranbury*
A. Treganowan, *South Amboy*
G. W. Tyrrell, *Perth Amboy*
J. Leon White, *South Amboy*
N. Williamson, *New Brunswick*
J. G. Wilson, *Perth Amboy*

No. members, 26.

MONMOUTH COUNTY.

Society organized July 16, 1816. Annual meeting third Monday in May.

Edw. F. Taylor, *Pres.*, *Middletown*
Wm. M. Hepburn, *V.-Pres.*, *Freehold*
D. M. Forman, *Sec'y*, *Freehold*
I. S. Long, *Treas.*, *Freehold*
W. U. Kurtz, *Rep.*, *Eatontown*
A. F. Applegate, *Englishtown*
Wm. B. Beach, *Long Branch*
E. M. Beach, *West* "
A. G. Brown, *Red Bank*
Wm. W. Beveridge, *Asbury Park*
Harvey Brown, *Freehold*
Ellis W. Crater, *Ocean Port*
J. S. Davison, *Asbury Park*
V. M. Disbrow, *Lakewood*
Edwin Field, *Red Bank*
D. D. Hendrickson, *Middletown*
H. A. Hendrickson, *Atlantic Highlands*
A. H. Higgins, *Manasquan*
G. G. Hoagland, *Keyport*
W. H. Ingling, *Turkey*
A. J. Jackson, *Matawan*
Harris P. Johnson, *Allentown*
Samuel Johnson, *Asbury Park*

W. R. Kinmouth, *Farmingdale*
C. Knecht, *Matawan*
S. R. Knight, *Spring Lake*
Sarah F. MacIntosh, *Asbury Park*
Wm. MacMillan, *Perrineville*
Henry Mitchell, *Asbury Park*
F. C. Price, *Imlaystown*
P. B. Pumyea, *Allentown*
Edgar Roberts, *Keyport*
P. J. Rafferty, *Red Bank*
Harry E. Shaw, *Long Branch*
W. G. Schauffler, *Lakewood*
John Taylor, *Ocean Grove*
Charles H. Thompson, *Belmar*
W. W. Trout, *Spring Lake*
Wm. B. Warner, *Red Bank*
Geo. F. Wilbur, *Asbury Park*
Alex. Williamson, "
W. S. Whitmore, *Oceanic*
Scudder J. Wooley, *Long Branch*
J. H. Van Meter, *Atlantic Highl'ds*
Harvey Young, *Red Bank*

HONORARY MEMBERS.

Robert Laird, *Manasquan*
William A. Newell, *Allentown*
George T. Welsh, *Passaic*

No. members, 46.

MORRIS COUNTY.

Society organized June 1, 1815. Annual meeting second Tuesday in May.

N. H. Adsit, *Pres.*, *Port Oram*
W. S. Foster, *V.-Pres.*, *Flanders*
Levi Farrow, *Sec'y*, *Hackettstown*
Jas. Douglas, *Treas.*, *Morristown*
E. P. Cooper, *Rep.*, *Troy Hills*
C. Anderson, *Madison*
G. A. Becker, *Morristown*
L. F. Bishop, "
A. E. Carpenter, *Boonton*
A. R. Corwin, *Morris Plains*
T. R. Crittenden, *Dover*
A. W. Condict, "
I. W. Condict, "
R. L. Cook, "
G. O. Cummins, "
Harris Day, *Chester*
H. V. Day, *Bloomingdale*
G. S. DeGroot, *Mendham*
B. D. Evans, *Morris Plains*
J. Willard Farrow, *Dover*
F. W. Flagge, *Rockaway*
G. H. Foster, *Rockaway*
Elliott Gorton, *Morris Plains*
J. B. Griswold, *Morristown*
H. A. Henriques, "
H. W. Kice, *Port Oram*
A. A. Lewis, *Morristown*
H. B. McCarroll, "
A. A. Macwithey, *Pompton*
P. S. Mallon, *Morris Plains*
W. H. Martin, *Madison*
C. N. Miller, *German Valley*
L. L. Mial, *Morristown*
Clifford Mills, "
F. W. Owen, "
H. M. O'Reilly, "
S. Pierson, "
T. P. Prout, *Morris Plains*
S. H. Reed, *Madison*
Wm. H. Risk, *Summit*
J. B. Risk, "
J. G. Ryerson, *Boonton*

E. Sutton,	*German Valley*	J. Walters,	*Port Oram*
J. L. Taylor,	*Boonton*	H. S. Wheeler,	*Whippany*
H. C. Upchurch,	*Kenvil*	C. Wigg,	*Boonton*
Harry Vaughn,	*Morristown*	W. J. Wolfe,	*Chatham*

HONORARY MEMBERS.

P. C. Barker,	*Morristown*	C. Y. Swan,	*Morristown*
P. A. Harris,	*Paterson*	J. S. Stiger,	*Mendham*

No. members, 50.

PASSAIC COUNTY.

Society organized July 14. 1844. Annual meeting third Tuesday in April.

J. L. Leal, *Pres.*,	*Paterson*	O. V. Garnett,	*Paterson*
M. A. Mackintosh, *V.-Pres.*,	"	J. T. Gillson,	"
J. O'Donnell, *Sec'y*	"	M. W. Gillson,	"
George Fischer, *Treas.*	"	J. H. Henggeler,	"
F. H. Todd, *Rep.*,	"	E. L. Henyan,	"
J. H. Banta, *Censor*,	"	W. B. Johnson,	"
P. A. Harris, "	"	T. J. Kane,	"
H. Kip, "	"	F. J. Keller,	"
F. E. Agnew,	"	H. H. Lucas,	"
A. J. Alexander,	"	Bryan C. Magennis,	"
J. W. Atkinson,	"	E. J. Marsh,	"
G. H. Balleray,	"	A. F. McBride,	"
J. S. Bibby,	"	J. C. McCoy,	"
Chas. R. Blundell,	"	J. R. Merrill,	"
W. Blundell,	"	S. R. Merrill,	"
D. T. Bowden,	"	Daniel T. Millspaugh,	"
J. A. Browne,	"	E. B. Morgan,	"
V. E. Bullen,	"	C. F. W. Myers,	"
C. M. Campbell	"	R. Neer,	"
W. H. Carroll,	*Passaic*	W. Neer,	"
D. R. Crounse,	"	W. K. Newton,	"
R. M. Curts,	*Paterson*	T. F. O'Grady,	"
G. S. Davenport,	*Garfield*	H. Parke,	"
S. De Jager,	*Paterson*	T. L. Paton,	"
F. F. C. Demarest,	*Passaic*	J. P. Paxton,	"
Edward F. Denner,	*Paterson*	H. V. Pike,	"
T. J. Fitzmaurice,	"	A. W. Rogers,	"
William Flitcroft,	"	B. H. Rogers,	"

C. H. Scribner,	*Paterson*	G. W. Terriberry,	*Paterson*
W. R. Smith,	*Little Falls*	R. A. Terhune,	*Passaic*
J. W. Smith,	*Paterson*	P. H. Terhune,	"
J. M. Stewart,	"	G. E. Tuers,	*Paterson*
R. Stinson,	"	S. Van Dalsen,	"
Isaac Surnamer,	*Paterson*	C. Van Riper,	*Passaic*
M. J. Synott,	*Montclair*	George Vreeland,	*Paterson*
J. Tattersall,	*Paterson*	F. Vigna,	"
C. Terriberry,	"	J. W. Williams,	"

HONORARY MEMBER.

J. C. Herrick, *Colorado Springs, Col.*

No. members, 74.

SALEM COUNTY.

Society organized May 4, 1880. Annual meeting first Wednesday in May.

E. E. DeGroft, *Pres.*, *Woodstown*		F. Bilderback,	*Salem*
B. A. Waddington, *V.-Pres.*, *Salem*		R. M. Davis,	"
H. Chavanne, *Sec'y & Treas.*, "		W. L. Ewen,	*Alloway*
H. T. Johnson, *Censor*,		G. W. H. Fitch,	*Daretown*
	Pedricktown	W. T. Good,	*Quinton*
W. H. Carpenter, *Rep. & Censor*,		L. M. Halsey,	*Williamstown*
	Salem	W. H. James,	*Pennsville*
Dan'l Garrison, *Censor*, *Pennsgrove*		Geo. E. Reading,	*Woodbury*
N. S. Hires, *Censor*,	*Salem*		

ASSOCIATE MEMBER.

W. A. Jaquett, D. D. S.

No. members, 15.

SOMERSET COUNTY.

Society organized May, 1816. Annual meeting last Thursday in April.

W. H. Merrell, *Pres.*,		J. E. Anderson,	*Neshanic*
	South Branch	J. B. Beekman,	*Pluckemin*
S. O. B. Taylor, *V.-Pres.*, *Millstone*		H. V. Davis,	*North Branch*
J. P. Hecht, *Treas.*,	*Somerville*	C. R. P. Fisher,	*Bound Brook*
A. L. Stillwell, *Sec'y*,	"	F. L. Fields,	*East Millstone*
J. H. Buchanan, *Rep.*,		T. H. Flynn,	*Somerville*
	North Plainfield	Mary E. Gaston,	"

W. H. Long, Jr.,	*Somerville*	W. J. Swinton.	*Somerville*
B. B. Matthews,	*Bound Brook*	J. D. Ten Eyck,	*Franklin Park*
J. F. McWilliams,	*Somerville*	H. G. Wagoner,	*Somerville*
L. T. Reed,	"	F. A. Wild,	*Bound Brook*
M. C. Smalley,	*Gladstone*	P. J. Zeglio,	*North Plainfield*
F. C. Sutphen,	*Bernardsville*		

HONORARY MEMBER.

John W. Ward, *Trenton.*

ASSOCIATE MEMBER.

E. R. Voorhees, M. D., C., *Somerville.*

No. members, 23.

SUSSEX COUNTY.

Society organized August 22, 1829. Annual meeting third Tuesday in May.

Chas. M. Dunning, *Pres.*,	*Franklin*	C. E. Dowling,	*Sparta*
		B. W. Ferguson,	*Beemerville*
Jos. G. Coleman, *V.-Pres.*,	*Hamburg*	Jos. Hedges,	*Branchville*
		Bruno Hood,	*Newton*
S. B. Straley, *Sec'y*,	*Newton*	M. D. Hughes,	*Layton*
E. Morrison, *Treas.*,	"	P. N. Jacobus,	*Newton*
T. H. Andress,	*Sparta*	J. N. Miller,	"
M. N. Armstrong,	*Newton*	John Moore,	*Deckertown*
L. G. Burd,	*Ogdensburg*	J. B. Pellet,	*Hamburg*
A. W. Cassady,	*Stillwater*	J. C. Price,	*Branchville*
Martin Cole,	*Hainesville*	John Strader,	*Lafayette*
E. Dalrymple,	*Branchville*	S. Voorhees,	*Newton*
C. K. Davison,	*Stanhope*	H. D. Van Gaasbeck,	*Deckertown*

HONORARY MEMBER.

Carlos Allen, *Vernon.*

No. members, 24.

UNION COUNTY.

Society organized June 7, 1869. Annual meeting second Wednesday in April.

F. A. Kinch, *Pres.*,	*Westfield*	Chas. H. Schlichter, *Rep.*,	*Elizabeth*
T. F. Livengood, *V.-Pres.*,	*Elizabeth*	F. C. Ard,	*Plainfield*
F. W. Sell, *Sec'y*,	*Rahway*	F. R. Bailey,	*Elizabeth*
R. J. Montfort, *Treas.*,	*Elizabeth*	W. C. Boone,	*Plainfield*

P. DuBois Bunting,	*Elizabeth*	J. K. McConnell,	*Cranford*
T. F. Burnett,	"	T. N. McLean,	*Elizabeth*
J. H. Carman,	*Plainfield*	W. H. Murray,	*Plainfield*
W. F. Cladek,	*Rahway*	E. R. O'Reilly,	*Elizabeth*
J. Ackerman Coles,	*Scotch Plains*	Albert Pettis,	*Plainfield*
F. M. Corwin,	*Bergen Point*	Alonzo Pettit,	*Elizabeth*
M. E. Clowson,	*Plainfield*	F. H. Pierson,	"
N. W. Currie,	"	H. C. Pierson,	*Roselle*
Thomas Dolan,	*Elizabeth*	J. B. Probasco,	*Plainfield*
A. Q. Donovan,	"	S. T. Quinn,	*Elizabeth*
G. W. Endicott,	*Plainfield*	John M. Randolph,	*Rahway*
J. R. English, Jr.,	*Irvington*	J. J. Reason,	*Cartaret*
J. Funk,	*Eilzabeth*	J. P. Reilly,	*Elizabeth*
W. F. Gaston,	*Plainfield*	W. U. Selover,	*Rahway*
William Gale,	*Westfield*	R. A. Shirrifs,	*Elizabeth*
G. E. Galloway,	*Rahway*	A. Stern,	"
James S. Green,	*Elizabeth*	E. B. Silvers,	*Rahway*
E. B. Grier,	"	R. R. Sinclair,	*Westfield*
B. Van D. Hedges,	*Plainfield*	G. W. Strickland,	*Roselle*
E. W. Hedges,	"	R. D. Tomlinson,	*Plainfield*
B. W. Hoagland,	*Woodbridge*	T. H. Tomlinson,	"
H. Page Hough,	*Rahway*	W. F. Turner,	*Elizabeth*
J. B. Harrison,	*Westfield*	A. F. Van Horn,	"
S. J. Keefe,	*Elizabeth*	N. W. Voorhees,	"
Horace Livengood,	"	F. W. Westcott,	*Fanwood*
M. B. Long,	*Plainfield*	R. B. Whitehead,	*Elizabeth*
Victor Mravlag,	*Elizabeth*	N. L. Wilson,	"
C. W. McConnell,	*Cranford*		

No. members, 63.

WARREN COUNTY.

Society organized February 15, 1826. Annual meeting first Tuesday in June.

F. W. Haggerty, *Pres.*,	*Vienna*	Milton M. Armstrong,†	*Newton*
F. J. La Riew, *V.-Pres.*,	*Asbury*	Isaac Barber,	*Blairstown*
Wm. J. Burd, *Sec'y*,	*Belvidere*	H. O. Carhart,	"
Wm. H. McGee, *Treas.*,	"	G. W. Cummins,	*Belvidere*
J. H. Griffith, *Rep.*	*Phillipsburg*	F. W. Curtis,	*Stewartsville*
W. C. Albertson,	*Belvidere*	James D. DeWitt,†	*Harmony*
Wm. C. Allen,	*Blairstown*	L. B. Hoagland,	*Oxford*

A. P. Jacoby,† *Phillipsburg*
John C. Johnson, *Blairstown*
Wm. Kline, Jr.,† *Phillipsburg*
L. C. Osmun, *Washington, D.C.*
Louis C. Osmun, *Hackettstown*
J. M. Reese, *Phillipsburg*
C. B. Smith, *Washington*
Robert S. Stewart,† *Phillipsburg*
G. O. Tunison, *Oxford*
Alva C. Van Syckle, *Hackettstown*
Chas. M. Williams, *Washington*

No. members, 25.

SUMMARY.

Atlantic,	38	Middlesex,	26
Bergen,	37	Monmouth,	46
Burlington,	29	Morris,	50
Camden,	62	Passaic,	74
Cape May,	18	Salem,	15
Cumberland,	37	Somerset,	23
Essex,	218	Sussex,	24
Gloucester,	30	Union,	63
Hudson,	117	Warren,	25
Hunterdon,	19		
Mercer,	59		1,010

TRANSACTIONS

OF THE

MEDICAL SOCIETY OF NEW JERSEY.

ONE HUNDRED AND THIRTY-FIFTH ANNUAL MEETING.

HELD AT DEAL BEACH, N. J.,

JUNE 25, 26, 27, 1901.

JOHN D. MCGILL, OF JERSEY CITY, FIRST VICE-PRESIDENT, IN THE CHAIR.

FIRST DAY—TUESDAY, JUNE 25TH.

The meeting was called to order in the Hathaway Inn, Deal Beach, N. J., at 3.35 P. M., by the First Vice-President, Dr. John D. McGill, of Jersey City, and the session was opened with prayer by the Rev. Dr. Bowett, of Ocean Grove.

Dr. S. Johnson, of Asbury Park, presented the report of the Committee of Arrangements.*

Dr. Wm. J. Chandler, of South Orange, presented the report of the Committee on Credentials. The committee reported that they had examined all of the credentials which had been presented. Only seventeen certificates had been presented personally by annual delegates. The by-laws require explicitly that the annual delegate shall produce here a certificate of delegation, and that without such certificate he cannot be considered a member. The committee has not insisted on this requirement for many years, but has taken the declaration of the Secretary that the delegates had been regularly appointed in lieu of a

All reports, papers, etc., marked thus (*) will be found in the Appendix.

formal presentation of a certificate. It is recommended that next year the Society require every annual delegate to present his certificate in person to the Committee on Credentials.

The reporters who have performed their duties and are therefore entitled to the privileges of annual delegates, are as follows:

A. B. Shimer, Atlantic County; J. W. Proctor, Bergen County; Joseph Stokes, Burlington County; J. G. Doran, Camden County; S. T. Day, Cumberland County; W. S. Disbrow, Essex County; H. H. Burnette, Hudson County; G. R. Moore, Mercer County: W. U. Kurtz, Monmouth County; E. P. Cooper, Morris County; J. Harvey Buchanan, Somerset County; R. B. Whitehead, Union County; J. H. Griffith, Warren County.

Two nominations for permanent delegates have been received, one from Gloucester County, Dr. E. T. Oliphant, and one from Monmouth County, Dr. C. Knecht. The credentials of these nominees could not be approved because there were no vacancies in those counties, and this is not the year for the regular election of permanent delegates.

Of the nominees for permanent delegates laid over from last year all from Monmouth County, three from Morris County and one from Bergen County have presented their certificates and are recommended for election. To fill vacancies created by death, Essex presents one nominee and Middlesex presents one nominee. Both candidates are recommended for election.

Dr. G. E. Reading, of Woodbury, claimed that there was a vacancy in Gloucester County, and that it was for this reason that the nomination had been made and presented in proper form.

Dr. Chandler replied that several years ago there had been a good deal of discussion because some societies did not know the number of permanent delegates to which

they were entitled, or had failed to select them at the proper time. Therefore, in 1899, the by-laws had been amended and revised in such a way that all district societies had an opportunity in the year 1900 to make up their quota and fill their regular delegation at the same time, and once in three years thereafter, and at no other time. (Extract from by-laws read).

Dr. Reading said that these other nominees should have been elected last year, or not at all; hence, none of these had any right here to-day.

Dr. Chandler said that their names had been presented last year, but the candidates failed to produce any certificates, and they had been laid over for consideration until this year. No name had been presented from Gloucester last year.

On motion of Dr. T. R. Chambers, of Jersey City, duly seconded, the report of the committee was accepted.

On motion, the minutes of the last meeting were approved as printed.

Dr. William J. Chandler read the report of the Recording Secretary, as follows:

To the Medical Society of New Jersey:

It is the duty of the Recording Secretary to report to the State Society each year which district societies are entitled to additional permanent delegates, and the number, and also all such delegates as shall have forfeited their membership.

The recent amendments to the by-laws designated the annual meeting of 1900 as the time especially set apart for the regular election of permanent delegates, and as an opportunity for each and every district society that wished to fill up any deficiency in its quota to do so then or be thereafter debarred. In accordance therewith, fifteen district societies presented the names of forty-six nominees for permanent delegates at the meeting of the Society last year. Thirty-three of these, having fulfilled the requirements of the by-laws, were then elected. Thirteen were laid over until this year, as they had failed to present the necessary certificates. Their names are as follows: Ber-

gen County, Samuel E. Armstrong, Rutherford; Mercer County, H. B. Costil, Trenton; Monmouth County, D. McLean Forman, Freehold; Edwin Field, Red Bank; P. B. Pumyea, Allentown; George F. Wilbur, Asbury Park; F. C. Price, Imlaystown; Samuel Johnson, Asbury Park; Morris County, James Douglas, Morristown; Stephen Pierson, Morristown; F. W. Flagge, Rockaway; Calvin Anderson, Madison; Warren County, J. M. Reese, Phillipsburg. All of these nominees excepting Drs. Anderson, Costil and Reese have presented the required certificates, and their election is recommended.

Death has removed two of the members of our permanent delegation, viz.: Dr. Charles H. Voorhees, New Brunswick; Dr. Joseph D. Osborne, Newark. To fill the vacancies thus created, Middlesex County presents the name of Dr. J. G. Wilson, Perth Amboy, and Essex County presents the name of Dr. Thomas W. Harvey, Orange. Both of these candidates are approved by the Committee on Credentials and their election is recommended.

We have on our roll 111 permanent delegates, of whom sixty-six were present at the last annual meeting. Of the forty-five absentees, fourteen are of the number elected last year, and their absence should not properly be charged against them. The following permanent delegates have been absent from two consecutive annual meetings: Randolph Marshall, Tuckahoe, Cape May County; W. H. C. Smith, Millville, Cumberland County; Joseph C. Young, Newark, Essex County; Henry C. Cooke, New Brunswick, Middlesex County; John Steiger, Mendham, Morris County; H. G. Wagoner, Somerville, Somerset County; T. N. McLean, Elizabeth, Union County. A formal notice of absence from the meetings of this Society for two consecutive years was sent to each of these absentees. John S. Steiger, Henry C. Cooke and Joseph C. Young presented excuses which were acceptable to the Standing Committee and their names are retained. Of the other absentees some presented excuses which were deemed insufficient, and the remainder presented no excuses whatsoever. Their names are therefore dropped from the roll in accordance with the requirements of the by-laws.

Your Secretary wishes to express his thanks to the secretaries of the different district societies for their courtesy and promptness in replying to his various requests during the past year. He has one additional request to make. The programmes have to be issued several weeks before the annual meeting, and most of the labor connected

with this work must be done some time earlier. The mailing list has to be revised. This of course largely depends on the membership lists forwarded by the district secretaries, and as the by-laws do not require these to be sent in until ten days before the annual meeting, a corrected list cannot be made out at the proper time. It is therefore suggested that the county secretaries notify the Recording Secretary of any additions to their membership as well as of any deaths, removals, etc., at least *thirty days* before the annual meeting. This will enable the Secretary to place any new names on the list and to make any necessary corrections in regard to the others. Completed lists can be sent as heretofore at the time required in the by-laws.

Shortly after the last annual meeting the death of our President, Dr. William Pierson, gave rise to several important questions for the decision of which there seems to be no competent authority without calling an extra session of the Society. Indeed our by-laws are not sufficiently explicit to decide positively upon whom the duties of the Presidential office devolve. Is it the First Vice-President or the three Vice-Presidents together who performs these duties? Other questions connected with this subject, and other possible emergencies which may arise, show the importance of constituting an authority to take charge of all such matters in the interim between meetings. To a committee consisting of the Fellows and the Officers could very properly be left the decision of all such questions.

It is always a matter of interest to the members of an organization to hear a statement of some of the details of its general condition.

Our Treasurer's report will show that we have ample resources, and when we look at our membership list we shall find that we have made considerable and unusual gains. We began our existence 135 years ago with a membership of only seventeen. Growth during those early days was slow and somewhat irregular. After 100 years of existence we had less than 300 members. Since then we have rather more rapidly added to our numbers until last year we had a total membership of 898—an average annual increase of eighteen, the greatest number added in any one year being thirty-nine in 1874. This year we take pleasure in announcing that our increase amounts to over 100,* more than double that of any preceding year, and gives us a total membership of about 1,000. Thirteen counties show a gain, three counties show a loss and three counties remain the same. If

*Owing to the incompleteness of some of the reports exact figures cannot be given.

all the delinquent members could be brought back to active membership we should have over 1100 regular members on our roll. Hudson and Essex, the largest counties in population, show the largest gains, Essex having a gain of twenty members and Hudson of thirty-seven —thus making it the banner county of the State in point of growth—having increased its membership almost 50 per cent. during the past year.

While Essex still has the largest total membership, 218, the counties are so nearly equal in population that at this rate of increase Hudson may ere long hold the first place in point of membership also. I have spoken of these facts because I wish it would excite in the different counties a spirit of commendable rivalry, not as to which would be the greatest, but as to which would show the greatest percentage of gain. There are in every county regularly educated medical men who are not members of any county society. They should be sought out and brought within the sphere of influence of the District Medical Society. We have twenty-one counties in this State, twenty of which have regularly organized district societies. Recent communications from the district secretaries show that while the majority of the regular practitioners are members of some district society, many are on the delinquent list and many are not members of any district society whatsoever. Most societies have some delinquents, but one society has over 50 per cent. of its members on the delinquent list. This is not as it should be. Something should be done to make it desirable—worth while—to belong to a district society. All our district societies should wake up to the fact that this is an age of active work. The spirit of the day is organization—organization in every department of life—and that sect, party or society which fails to thoroughly organize in its efforts to sustain itself and advance its ideas will fall far behind in the race and soon be lost to sight.

The reorganization of the American Medical Association gives the management of its affairs to a house of delegates. These delegates are elected by the State societies on the basis of one delegate for every 500 members or fraction thereof. With a membership of 998, we are entitled to only two delegates. If we had a few additional members we could have three delegates, thus making little New Jersey rank well with the other States, even with those which are more populous, for while there are many States much larger, there are not many whose State societies have over 1,000 regular members. It is

fitting that the Medical Society of New Jersey, being the oldest in the country, should hold a prominent place in that society which is the embodiment and representation of all our State societies—our national association. Let us strive then during the coming year to build up our district societies, to bring into active membership every regular practitioner in the county. Give him something to do, make it of some advantage to him to be a member of a district society, and we shall see at our next annual meeting such increase of interest and such accessions to our numbers as will be both gratifying and amazing.

On motion, the report was received and ordered printed in full in the minutes.

On motion, the Secretary was instructed to cast the ballot of the Society for the election of the list of permanent delegates from Monmouth County, viz.:

D. McLean Forman, Freehold; Edwin Field, Red Bank; P. B. Pumyea, Allentown; George F. Wilbur, Asbury Park; F. C. Price, Imlaystown; Samuel Johnson, Asbury Park.

The same course was pursued for each of the other counties, and the following were also declared elected permanent delegates:

Bergen—Samuel E. Armstrong, Rutherford.

Essex—Thomas W. Harvey, Orange, to fill vacancy created by the death of Dr. Joseph D. Osborne.

Middlesex—J. G. Wilson, Perth Amboy, to fill vacancy created by the death of Dr. C. H. Voorhees.

Morris—James Douglass, Morristown; Stephen Pierson, Morristown; F. E. Flagge, Rockaway.

On motion of Dr. J. W. Chandler, the names of Dr. Calvin Anderson, of Madison, Morris County, of Dr. H. B. Costil, of Trenton, Mercer County, and of Dr. J. W. Reese, of Phillipsburg, Warren County, were laid over until later in the session to give them an opportunity to present their credentials.

Dr. W. B. Johnson, of Paterson, presented the report of the Business Committee.*

On motion, this report was accepted.

The Chairman announced the appointment of the following on the Auditing Committee: Dr. W. B. Johnson, Paterson; Dr. J. W. Fithian, Camden, and Dr. N. L. Wilson, Elizabeth.

Dr. G. E. Reading, of Woodbury, under the head of "business requiring early consideration," introduced the following resolution:

Whereas, Through the lamented death of our President, Dr. William Pierson, the office of President is vacant, now, therefore, be it

Resolved, That the various district societies report the name of their member of the Nominating Committee immediately at the close of this afternoon's session, and that the committee meet and name a candidate to fill the vacancy in the office of President, and report as the first order of business at this evening's session.

Not seconded.

Dr. Reading explained that he did this because the by-laws did not state specifically who should fill the vacancy in the office of President.

Dr. S. A. Helfer, Hoboken, moved that the First Vice-President shall conduct the business and act as President until the new President is elected. Seconded.

Dr. McGill, First Vice-President, said that he thought the by-laws covered sufficiently, though imperfectly, the present state of affairs. He thought it right and proper that the chair of President should be allowed to remain vacant during this meeting for the purpose of showing our appreciation of our dead President, and he did not wish to be made President in this way, but only in the regular manner, by election.

Dr. Reading said that in offering his resolution he certainly had had nothing in his mind antagonistic to Dr. McGill, but rather because he occupied an anomalous position under a peculiar wording of the by-laws.

Dr. McGill read the by-law bearing on this matter (Dr.

E. L. B. Godfrey, Second Vice-President, having taken the Chair). He said that he was, of course, anxious to be President of this great Society. The latter should, however, be conservative, and there should be no unseemly scrambling for the office of President. He had no desire to preside two years in succession, and he had no idea of doing so. He thought he had the right to request from this Society that he be elected in the regular way. He did not wish to be handed down to posterity as the brevet President.

Dr. Philip Marvel, Atlantic City, said that on page 36 of the by-laws the question seemed to be distinctly answered, for in Chap. VI., Sec. 9, it says: "Cushing's Manual of Parliamentary Law shall be followed in all cases not covered by these rules." That manual provided for filling the vacancy in the presidential chair, and he thought, therefore, Dr. McGill was President, whether he wished to be or not.

Dr. W. B. Johnson, Paterson, said that inasmuch as there were three Vice-Presidents to preside at this session of the Society there seemed to be no real reason for hurry in increasing the number of Fellows of the Medical Society of New Jersey.

Dr. Day, Cumberland County, rose to the point of order that Dr. Marvel's point of order had not been decided.

The Chairman replied that the discussion was upon Dr. Reading's resolution, and that a wide latitude had been allowed in order to give Dr. McGill an opportunity to explain the situation.

Dr. Brinckerhoff, of Hudson County, then made the point of order, which was sustained, that the present discussion was not in order because Dr. Reading's resolution had not been seconded.

Dr. S. A. Helfer, of Hoboken, then moved that the First, Second and Third Vice-Presidents alternately preside at the sessions of this meeting of the Society. Seconded.

Dr. Alex. W. Rogers, of Passaic County, said that he was of the opinion that the framers of the by-laws had not made any mistake about the question of vacancy in the presidential chair, and that the First Vice-President should take the place. (Applause.)

Dr. T. R. Chambers, of Jersey City, said that the intention of Dr. McGill was that the three Vice-Presidents should take the Chair at different times, and, therefore, he hoped the Society would not dictate to him by such a vote as that proposed in this motion.

Dr. Philip Marvel asked if the President of the United States should vacate his office by decease who would become President.

Dr. Lampson, of Hudson County, said that this was provided for specifically by the Constitution of the United States and by Acts of Congress. The framers of the by-laws of this Society, however, had not made provision for filling the vacancy in the office of President.

A vote was then taken on Dr. Helfer's motion, and it was declared lost.

Dr. Shepard said he hoped no further action would be taken in this direction.

Dr. G. E. Reading again offered his former resolution, which was duly seconded.

Dr. Philip Marvel again urged the point of order that Section 9, page 36, of the by-laws, provided for filling this vacancy.

The Chairman decided that that section related to the parliamentary proceedings of the Society.

Dr. McGill said that suppose a President should be

elected to-night or to-morrow morning, would not that take the name of our late President from the list of Fellows?

Dr. Chavanne, of Salem, thought the by-laws were as clear as it was possible to make them. If a President were elected to-day in place of the Vice-President, regardless of the view which he takes, it would be an act of disrespect to him. Provision had been made in the by-laws, *i. e.*, the successor shall be the three Vice-Presidents in their order, the First Vice-President becoming President during that year, and each Vice-President advancing one number. If there were any doubt about this, page 36 should remove it. He hoped the resolution would be defeated and that the Vice-President would be allowed to preside and get his proper position.

Dr. J. M. Rector, of Hudson County, raised the point that on page 20, Section 3, Chapter II, of the By-Laws, it says that "All the duties pertaining to it (the Presidential office) shall devolve upon the Vice-Presidents. It does not say that the Vice-Presidents shall succeed each other.

Dr. W. B Johnson insisted that the by-laws directed that the Vice-Presidents should act when the office of President was vacant—not act as President, but perform the functions for which they were elected, *i. e.*, preside over the deliberations of the Society when required. He hoped and believed that the resolution would not be adopted. (Applause.)

Dr. P. C. Barker, of Morris County, said that Dr. Pierson had been elected President of the Society, and as no one else had been elected there was a vacancy in that office, and the by-laws prescribed who should act in the event of such vacancy, and without making such person President. (Cries of "Question.")

Dr. Reading claimed the right to speak on the resolution which he had introduced. He said that the by-laws provide that all ex-Presidents are Fellows of the Society, and hence whatever action was taken to-day could not affect the status of their late associate, Dr. William Pierson. Dr. Reading said he had no personal interest in the resolution which he had introduced further than to make good an apparently accidental omission in the by-laws. The only way the Society could have a President at this session was by adopting his resolution.

A rising vote was taken on the resolution, and it was declared lost.

Dr. H. W. Elmer, of Bridgeton, presented the report of the Committee on Ethics and Judicial Business.*

Dr. Reading asked by what authority this committee excused permanent delegates.

Dr. W. J. Chandler replied by virtue of an amendment to the by-laws adopted in 1899, supplemented by a resolution passed at the last meeting.

On motion of Dr. Helfer, the report was received and ordered placed on file.

Dr. H. W. Elmer also presented the report of the Standing Committe on Review of By-Laws of District Societies.*

On motion of Dr. Helfer, the report was received and the recommendations contained in the report adopted.

Dr. Archibald Mercer, of Newark, presented the report of the Treasurer.*

He also moved that the following bills be paid, and that the assessment on the district societies for next year be $1 for each member: Dr. E. W. Hedges, Corresponding Secretary, $10; Dr. H. W. Elmer, $27.30; Dr. A. Mercer, $10.02; Orange Chronicle Company, $28; Dr. W. J. Chandler, $31.81.

Dr. Reading asked what was the necessity for having an assessment when there was so much money in the treasury. He would like Dr. Mercer to state again the balance in the treasury.

Dr. Mercer said that several years ago there had been a balance on hand in cash of $2,600 or more, and for one or two years no assessment had been levied, with the result that the Society had been placed in bad financial condition, having twice found it necessary to borrow money at interest. The expenses last year had been $852.

Dr. Reading then moved to amend the report by striking out the assessment of $1. Seconded.

Dr. Mercer explained that the expenses of last year afforded no criterion of what they would be this year; for example, the Transactions last year had only cost about one-half the amount in former years.

Dr. Reading's motion was then voted upon and lost.

On motion of Dr. Helfer, the report of the Treasurer was accepted and its recommendations adopted.

Dr. E. W. Hedges, of Plainfield, presented the report of the Corresponding Secretary.*

On motion of Dr. Helfer, this report was received.

Dr. Charles J. Kipp; of Newark, presented the report of the Committee on Honorary Membership.*

On motion, the report was received and the recommendation of the committee adopted.

Dr. Lampson presented the name of Dr. J. Leonard Corning, of New York, for honorary membership in this Society, and asked that it be referred to the proper committee.

Dr. Philip Marvel, of Atlantic City, moved that a committee of three be named by the Chair to revise the present Constitution and By-Laws of the Medical Society of

New Jersey, and that this committee report at the next meeting, the report to take the legal course of all amendments to the by-laws. Seconded by Dr. S. A. Helfer, and carried.

Dr. S. A. Helfer reported that he had attended the meeting of the Massachusetts Medical Society as a delegate, and that all possible courtesies had been extended to him. He wished here to express his thanks for these courtesies.

On motion, adjourned at 5.20 P. M.

EVENING SESSION.

The meeting was called to order by the Second Vice-President, Dr. E. L. B. Godfrey, at 8.15 P. M.

Dr. W. B. Johnson reported that the Auditing Committee had examined the accounts and the bank book of the Treasurer and would report that the same are correct.

On motion, the report was accepted and the committee discharged.

The Secretary then read the names of the Nominating Committee as reported to him, as follows:

Atlantic –W. Blair Stewart; *Bergen*—Samuel E. Armstrong; *Burlington*—R. H. Parsons; *Camden*—Joel W. Fithian; *Cumberland* —G. E. Day; *Essex*—A. K. Baldwin; *Gloucester*—L. M. Halsey; *Hudson*—Mortimer Lampson; *Hunterdon*—George W. Bartow; *Mercer*—Elmer Barwis; *Middlesex*—A. Clark Hunt; *Monmouth*—J. S. Long; *Morris*—F. W. Flagge; *Passaic*—John L. Leal; *Salem* —W. H. James; *Somerset*—C. R. P. Fisher; *Sussex*—Benjamin W. Ferguson; *Union*—S. T. Quinn.

Dr. J. D. McGill, of Jersey City, then delivered the President's Address, taking for his theme, "The Medico-Legal Expert."

On motion of Dr. W. B. Johnson the thanks of the

Society were extended to Dr. McGill, and the Standing Committee was requested to publish the address in the volume of Transactions.*

Dr. H. W. Elmer, of Bridgeton, presented the Report of the Standing Committee.*.

On motion, the report was received.

Dr. Charles Young, of Newark, read a portion only of his report on the Progress in Surgery.*

Dr. B. A. Waddington presented the report on the Progress in Diseases of the Nose and Throat.*

Dr. D. H. Bergey, of Philadelphia, presented the report on the Progress in Bacteriology.*

Report of the Progress of Opthalmology and Otology, by J. Wm. Atkinson, Paterson, N. J., was read by title and referred to the Standing Committee for publication.

On motion, adjourned at 10.15 P. M.

SECOND DAY—WEDNESDAY, JUNE 26.

MORNING SESSION.

The meeting was called to order by Dr. McGill at 9.30 A. M.

The President announced that inadvertently the election of Col. Alfred A. Woodhull, as an honorary member had been omitted. The by-laws require a ballot in such elections.

On motion of Dr. Charles J. Kipp the Secretary was instructed to cast the ballot of the Society for the election of Col. Alfred A. Woodhull to honorary membership in the Society, and he was declared unanimously elected.

On motion of Dr. Chandler the resignation of Dr. W. H. McGee as a member of the Standing Committee was accepted.

The Secretary moved the suspension of the order of business in order that the report of the Nominating Committee as regards the Standing Committee might be presented at this time. Seconded by Dr. McAllister and carried unanimously.

The Nominating Committee presented the following nominations for the Standing Committee:

Dr. Charles Young, Newark; Dr. C. P. Hecht, Somerville, for three years; Dr. W. H. Ireland, of Camden, to fill the unexpired term of Dr. W. H. McGee.

On motion, the Secretary was instructed to cast a ballot for the election of these gentlemen. This was done and they were declared elected.

Dr. McAllister moved that the Standing Committee be instructed to request writers of papers to hand them in within one month. Seconded by Dr. Elmer and carried unanimously.

The Third Vice-President, Dr. Henry Mitchell, Asbury Park, then presented an essay entitled "What Measures are practicable for preventing the spread of tuberculosis?"

On motion, the essay was received, the thanks of the Society was extended to the essayist, and the essay was ordered printed in the Transactions.*

Dr. Charles Lewis Allen, Trenton, read an essay on "Arteriosclerosis and Nervous System."* It was discussed by Dr. E. W. Hedges, Plainfield, Dr. Ryerson, Boonton, B. A. Waddington, Salem, and M. Lampson, Jersey City.

Dr. Alexander McAllister, Camden, presented an essay on "Infant Feeding; Some Difficulties in the Management of those deprived of Milk."* Discussed by Dr. Emery Marvel, Atlantic City.

Dr. N. L. Wilson, Elizabeth, presented an essay entitled, "Some Observations on the New Hæmostatic, Adrenalin."*

Discussion by Dr. W. B. Johnson, Paterson; Dr. Rogers, Paterson, and Dr. Charles J. Kipp, Newark.

Dr. William M. Leszynsky, of New York, read an essay on "Neuralgia and Allied Affections."*

On motion, the essayist was tendered the thanks of the Society.

Dr. Daniel Strock, Camden, read an essay entitled, "A Plea for the Physician on the Witness Stand."*

Discussion by Dr. Thomas W. Harvey, Orange, and Dr. Chavanne, of Salem.

Dr. W. J. Chandler moved that the further consideration of this important paper be referred to the Committee on Legislation, with the earnest recommendation that they use every effort to have this law so changed that physicians shall not be obliged to disclose the secrets of their patients, and that the Committee report to this Society at the next annual meeting before advising legislative action. Seconded and carried unanimously.

Dr. Daniel Currie, Englewood, read an essay on "The Modern Treatment of Gonorrhœa and its Complications."* Discussion by Dr. E. B. Silvers, Rahway; M. Lamson, Jersey City, and Dr. Chavanne, of Salem.

Dr. W. B. Stewart, Atlantic City, presented an essay on "The Treatment of Neurasthenia"*

Discussed by Dr. Phillip Marvel, Atlantic City, and G. H. Balleray, Paterson.

Dr. Calvin Anderson, of Madison, having presented his credentials in proper form, was recommended for election as permanent delegate. On motion the Secretary was instructed to cast the ballot for his election to permanent membership. This was done and he was declared unanimously elected.

Dr. Charles J. Kipp, Newark, said that there was at present no provision in the By-Laws for the transaction

of business in the interval between the annual meetings. He therefore proposed an amendment* recommending the establishment of an Executive Committee to consist of the President, Vice-President, Secretary and Treasurer and three Fellows. Their duty shall be to manage the affairs of the Society in the interim of the meetings, and their proceedings shall be reported at the annual meeting. The Fellows on this committee shall serve for three years or until their successors are elected.*

On motion of Dr. Kipp this was referred to the new Committee on Revisions of the By-Laws.

On motion, adjourned at 12.50 P. M.

AFTERNOON SESSION.

The meeting was called to order by Dr. McGill at 3.30 P. M.

At the suggestion of Dr. Charles J. Kipp, Dr. Thomas W. Harvey, Orange, was requested to present extemporaneously a portion of a biography that he had prepared of the late President, Dr. William Pierson. This was done. (See obituaries).

DR. T. R. CHAMBERS, of Jersey City: For sixteen years I served with Dr. Pierson. During ten years of that time there was scarcely one week in which I was not at his home and fireside. I saw the man and had an excellent opportunity to observe his human side. He was full of charity for all. He hated shams of all kinds. If in trouble, no matter what its character, he was ready to give his advice, and it was almost always of the best. He never withheld the helping hand to the younger men. He was thoroughly posted on all medical matters. I sometimes felt disgraced at the operating table when a point came up that was new to me—young and with comparatively small business cares—and found that Dr. Pierson had informed himself through his magazines and his paper while I was still asleep in the morning. He accomplished more in twenty-four hours than any other man I ever

knew. He was a very busy man all day long, and at night the young doctors would be found at his house. His hand was ever out to help, and these times were always full of pleasure and joviality. His presence and his help were felt in the Oranges and in Newark perhaps more than that of any other man of like position because he was such an intense student and worker, and knew how to apply his knowledge. It gives me the greatest pleasure to be able to give this slight testimony to the greatness of this man.

DR. ROGERS, of Paterson: I have known Dr. Pierson for sixty years. I can testify to what I saw of him in this Society. He was always here in his place, and his work was always done and ready, so that there was never any delay because of tardiness on his part. He was always ready to suggest to the President, information of value in times of emergency. He was thus a very great help to every President of the Society. There was another quality for which so many loved him; his courtesy, gentleness of manner and affability. He extended his hand to all, and we always knew it was the hand of a friend.

DR. AMBROSE TREGANOWAN, South Amboy: *Mr. President*—I have been very much interested in the remarks of Dr. Harvey touching the death of Dr. Pierson. I do not know anything about Dr. Pierson's home relations, but I have been told they were especially sweet, endearing and happy. I have been a member of this Society since 1853 or '54, and have known Dr. Pierson from the time he entered this Society.

You all remember that when the Doctor died many of us thought that his place as Recording Secretary of the Society could never be filled.

I have been more or less associated with Dr. Pierson in his medical work in the various institutions with which he was connected, and although he never attempted to surround himself with the glamor and show of the 19th Century, yet Dr. Pierson as a physician, was unusually reliable in the treatment and management of his cases.

I had hoped that some of the older members of this Society, and those who knew him best, would accept this opportunity of expressing their appreciation of his many noble qualities as man and physician.

I have known somewhat of Dr. Pierson's career in general practice and as the family physician, especially among the lower classes, and I

have been told by many of them that his genial character and ever present sympathy were frequently more potent with them than the medicine he gave them.

I attended the funeral of Dr. Pierson at Orange, and, although I went early I found the streets and corners crowded, and I was sorry to find so few physicians there from the lower part of the State, but I must say Hudson county was well represented.

You may think it strange, perhaps, that the funeral was not held at the church of which Dr. Pierson was a member, but I was informed that if all the churches of Orange had been placed at the service of the funeral of Dr. Pierson, the whole of them would not have held one half of the people who wished to attend. I have attended funerals in various lands, of the high and the low, the rich and the poor, the Lord and the Peasant, but I never saw a more spontaneous outpouring of sympathy than I saw the day of the funeral of Dr. Pierson, showing the deep respect in which he was held by the community at large.

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At St. Michael's Hospital, Newark, he was very much beloved, endearing himself to the patients of the hospital and the attendants generally.

If I were to look my whole experience over and search for a practitioner whom I should set up as an ideal physician, I could do no better than accept Dr. Pierson as my ideal of a general practitioner.

I shall hope to hear further expressions of respect, regard and sympathy from some of the older members of the Society who are present to-day.

Unfortunately several members of the Society who were intimately connected with Dr. Pierson so long, have died.

When I came into this room to-day, Mr. President, I had Dr. Pierson in my mind, and I was very much disappointed, as I think the Society should have draped the chair in memory and respect of his once occupying it as President of this Society. Dr. Pierson, no matter how pressing his business, was always courteous and kind. He never manifested any impatience, but greeted one and all with a nod and a smile, and so habitual was that smile that it did not leave his face when in his coffin, and, gentlemen of the Society, especially you the younger members, I can offer you no better advice in your efforts and labors in this Society, or in whatever line of work your profession calls you, I can offer you no better ideal to emulate and follow as a man, a physician and a friend, than the life and character of Dr. William Pierson.

Dr. W. B. Johnson moved that Dr. J. Leonard Corning, Dr. Frederick Holme Wiggin and Dr. W. M. Leszynsky, of New York, be invited to sit with the Society and take part in the discussions. Seconded and carried unanimously.

Dr. Samuel E. Armstrong, Rutherford, read an essay entitled "Some of the Infections, their Genesis, Habitat, Consequences and Prevention."*

Discussion by Drs. Ferdinand M. Jeffries, New York; W. L. Vroom, Ridgewood; A. Treganon, South Amboy, and Alexander Marcy, Riverton.

Dr. T. Y. Sutphen, Newark, presented the report of the Committee on Abuse of Medical Charity.*

At the suggestion of Dr. Sutphen, Dr. F. H. Wiggin, New York, was invited to speak on this subject.

Dr. Wiggin said: Some time ago the abuse of medical charity in New York city having grown to very large proportions, an effort was made to have a law passed which would place the management of the dispensaries under the State Board of Charities. The law was finally enacted and the State Board of Charities made some rules for regulating the dispensaries, but our experience so far has been that the pull of the managers of these places has been greater than the influence of the medical profession. The excuse made by the State Board of Charities is that they desire to give the managers sufficient time to adjust themselves to the new state of affairs. For this reason we have had very little practical proof of the value of such legislation. Because of this experience, showing as it does that the medical profession has very little influence, we have bent our efforts in another direction, namely, towards better organization of the medical profession in order that we may secure the enforcement of the laws on the statute books. We desire to get as many

All reports, papers, etc., marked thus (*) will be found in the Appendix.

influential medical men into our organizations as possible, to thrash out our differences among ourselves, and finally to gain sufficient influence to secure the desired remedy. We are told constantly by legislators that doctors have little or no influence. It is the same at the City Hall, New York, at Albany and at the National Capitol in Washington. I think the doctors have the matter in their own hands very largely, and when they are sufficiently interested something will be done to limit this abuse.

On motion of Dr. Lampson, the report of this committee was received and the committee continued.

Dr. R. C. Newton, Montclair, presented the report of the Committee on Dr. Newton's paper.*

Dr. H. L. Coit, Newark, presented a minority report.*

On motion of Dr. W. B. Johnson, the report was received, and the committee continued.

Dr. W. B. Johnson, Chairman of the Committee on Medical Inspection of Schools, presented the report of that committee.*

On motion of Dr. W. J. Chandler, the report was received and the committee discharged with the thanks of the Society.

Dr. H. W. Elmer, Chairman of the Special Committee on State Sanatoria for Tuberculosis, presented the report of that committee.*

On motion, the report was received and the committee continued.

Dr. Joseph Stokes, Moorestown, presented an essay on the "Diagnosis of Intestinal Perforation in Typhoid Fever."*

Discussion by Dr. Alexander Marcy, Riverton; Louis Faugeres Bishop, New York; Philip Marvel, Atlantic City; Dr. Sheppard, Trenton, and Dr. Stokes. By invitation, Dr. John A. Wyeth, New York, President of the

American Medical Association, who was present as a guest of the Society, spoke briefly as follows: "I feel very greatly honored at being remembered by you. I have been working hard all day in New York in order to get through and get down here to be with you. I have succeeded, although it is already late in the day, and I hope you will accept and appreciate the effort."

On motion of Dr. David C. English, seconded by Dr. W. J. Chandler, the amendment to the By-Laws, Chapter II, § 12, striking out the words, "and one member of the Prize Committee," was unanimously adopted.

On motion of Dr. Chandler, seconded by Dr. H. W. Elmer, the following resolution was unanimously adopted:

Resolved, That we are in favor of the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington, for the practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal pauper and defective classes, and in hospitals, and also as may be observed in schools and other institutions.

On motion, adjourned at 6.00 P. M.

THIRD DAY—THURSDAY, JUNE 27TH.

The meeting was called to order by Dr. McGill at 9.05 A. M.

The Chair announced the appointment of the following on the Committee on Revision of the By-Laws: Dr. Philip Marvel, Atlantic City; Dr. W. J. Chandler, South Orange; Dr. John W. Ward, Trenton; Dr. J. C. Parsons, Jersey City; Dr. A. Treganon, South Amboy.

On motion of Dr. Chandler, the names of Drs. Costil and Reese, nominees for permament delegates, were laid over for another year because they had not yet sent in their certificates.

On motion of Dr. Chandler, the report* of the delegates to the New York State Medical Association having been received, was referred to the Standing Committee.

On motion of Dr. George E. Reading, seconded by Dr. Chambers, the Society proceeded to the election of a delegate and an alternate for the Committee on Legislation of the American Medical Association. Dr. George E. Reading, Woodbury, was nominated as delegate, and Dr. Luther M. Halsey, Williamsport, as alternate, and on motion, the Secretary cast a ballot for their election. They were declared elected.

On motion of Dr. T. R. Chambers, seconded by Dr. E. L. B. Godfrey, the Committee on Medical Directory, having nothing to do, was dispensed with.

Dr. George E. Reading proposed the following amendment to Section 3, Chapter II, of the By-Laws, Page 21: Strike out "all the duties pertaining to it shall devolve on the said Vice-Presidents," and insert "The First Vice-President shall succeed to the office; in case of a vacancy occurring in the office of First or Second Vice-President, the Vice-President next in order shall succeed to the office."

It was, on motion, referred to the Committee on Revision of the By-Laws.

Dr. Talbot R. Chambers, Jersey City, read an essay entitled "125°F. the Proper Temperature for Ear Douching.*

On motion of Dr. E. L. B. Godfrey, Camden, the thanks of the Society were extended to Dr. Chambers, and the paper was referred to the Standing Committee for publication in the Transactions.

Dr. Emery Marvel, Atlantic City, read an essay entitled "Ethyl Bromide—A Primary Anæsthetic to Ether or Chloroform."*

Dr. G. H. Balleray, Paterson, presented a fœtus with a decidua representing a complete cast of the uterus. He also read an essay on "The Diagnosis and Treatment of Early Ectopic Pregnancy."*

Discussion by Dr. Philander A. Harris, Paterson.

On motion of Dr. Godfrey, the paper was referred to the Standing Committee.

Dr. David C. English presented the report of the Fellows' Prize Committee.*

The following are the members of the committee for the ensuing year: Drs. H. R. Baldwin, D. C. English and William Elmer.

On motion, the report was received.

Dr. J. C. McCoy, Paterson, reported "A Case of Tumor of the Neck."*

Discussion by Dr. W. B. Johnson, Paterson.

Dr. Talbot R. Chambers, Jersey City, reported a case of "Suppurative Choroiditis."*

Discussion by Dr. N. L. Wilson, Elizabeth.

Dr. Walter B. Johnson, Paterson, presented a paper containing "Suggestions Regarding State Aid for Hospitals."*

Discussed by Dr. Chavanne, Salem.

On motion of Dr. Emery Marvel, Atlantic City, seconded by Dr. McCoy, Paterson, the Chair was requested to appoint a committee of five, with Dr. Johnson as chairman, to take up these suggestions and act as seems most judicious to that committee.

The Chair appointed the following on this committee: Dr. W. B. Johnson, Chairman; E. Marvel, E. L. B. Godfrey, S. Johnson and D. A. Currie.

Dr. G. H. Balleray, Paterson, reported "A Case of Cæsarian Section for Deformity of Utero-Vaginal Canal."*

All reports, papers, etc., marked thus (*) will be found in the Appendix.

Dr. Ward having taken the Chair, the report of the Nominating Committee was presented by Dr. J. L. Leal, as follows:

President—Dr. John D. McGill, of Jersey City.

First Vice-President—Dr. E. L. B. Godfrey, of Camden.

Second Vice-President—Dr. Henry Mitchell, of Asbury Park.

Third Vice-President—Dr. A. W. Taylor, of Beverly.

Corresponding Secretary—Dr. E. W. Hedges, of Plainfield.

Recording Secretary—Dr William J. Chandler, of South Orange.

Treasurer—Dr. Archibald Mercer, of Newark.

Place of Meeting—Atlantic City, June 24, 25 and 26, 1902.

Standing Committee - Dr. Charles Young, Newark; Dr. John P. Hecht, Somerville; Dr. W. H. Ireland, Camden. Unexpired term of Dr. McGee.

Business Committee Dr. Walter B. Johnson, Paterson; Dr. Alexander McAllister, Camden; Dr. E. Morrison, Newton; Dr. B. C. Pennington. Atlantic City; Dr. E. Hollingshead, Pemberton.

Committee on Honorary Membership—Dr. H. Genet Taylor, Chairman, Camden; Dr. Alexander W. Rogers, Paterson; Dr. Charles J. Kipp, Newark.

Committee on Arrangements—Dr. W. Blair Stewart, Atlantic City; G. E. Reading, Woodbury; Dr. John F. Leavitt, Camden; Dr. S. T. Day, Port Norris; Dr. A. Reiley, Atlantic City.

Delegates to American Medical Association—Dr. E. J. Marsh, Paterson, two years; Dr. Chas. J, Kipp. Newark, two years; Dr. Luther Halsey, Williamstown, one year.

Delegates to New York Medical Society—Dr. D. A. Currie, Englewood; Dr. Wm. J. Chandler, South Orange; Dr. Joseph M. Rector, Jersey City.

Delegates to Massachusetts Medical Society—Dr. Samuel A. Helfer, Hoboken; Dr. Wm. R. Kinmouth, Farmingdale.

Delegates to Pennsylvania Medical Society—Dr. H. A. Stout, Wenonah; Dr. L. L. Hand, Leesburg; Dr. Henry Elmer, Bridgeton; Dr. Cornelius Shepherd, Trenton; Dr. Luther M. Halsey, Williamstown.

Delegates to the Maryland Medical Society – Dr. B. D. Evans, Morristown; Dr. John C. McCoy, Paterson; Dr. Emery Marvel; Atlantic City.

Delegates to the New Hampshire Medical Society—Dr. Edwin Field, Red Bank; Dr. John J. Ryerson, Boonton; Dr. S. O. B. Taylor, Millstone.

Delegates to the Connecticut Medical Society—Dr. J. A. Exton, Arlington, and Dr. S. A. Helfer, Hoboken.

Delegates to the Rhode Island Medical Society—Dr. James M. Stewart, Paterson; Dr. M. H. Ayers, Fairview.

Delegates to Mississippi Valley Medical Association—Dr. Wm F. Faison, Jersey City; Dr. Geo. Redding, Woodbury.

Delegates to American Pharmaceutical Association—Dr. W. K. Newton, Paterson; Dr. H. L. Coit, Newark.

Respectfully submitted,

J. L. LEAL, *Chairman.*
A. CLARK HUNT, *Secretary.*

On motion of Dr. George E. Reading, seconded by Dr. Halsey, this report was received, and the Society proceeded to the election of officers.

Dr. Reading moved that the Secretary be authorized to cast the ballot of the Society for the list of nominees. Seconded

Dr. Chandler objected to this method, and added that alternates must be provided for the delegates to the American Medical Association, and they had not been named as yet.

On motion, the Secretary was instructed to cast the ballot for Dr. John D. McGill as President of the Society. This was done and he was declared elected. The same course was followed with each of the other officers.

Dr. Reading moved that the last Tuesday, Wednesday and Thursday of June, 1902, be the days of the meeting, and that the Secretary cast the ballot of the Society for Atlantic City as the place of meeting. Seconded and carried unanimously.

On motion, the Secretary cast a ballot for the Business Committee as read, and the same course was pursued

with regard to the election of the Committee on Honorary Membership, the Committee on Arrangements and the Delegates to the American Medical Association.

Dr. Chandler nominated Dr. R. C. Newton as alternate for Dr. Kipp. The other alternates nominated were Dr. Philip Marvel and Dr. B. A. Waddington. On motion of Dr. Reading, they were elected by a ballot cast by the Secretary. The same course was pursued in regard to the delegates to the various State Societies, as detailed in the report of the Nominating Committee.

Dr. Charles L. Leonard, of Philadelphia, opened the discussion of "What Reliance can be placed upon the Image produced by the X-Ray from a Medico-Legal Standpoint?"*

Discussion continued by Dr. Carl Beck, New York, and Dr. Graves, East Orange; E. L. B. Godfrey, Camden, and Dr. Emery Marvel, Atlantic City. Dr. Leonard and Dr. Beck made closing remarks.*

On motion of Dr. Godfrey, the paper of Dr. Leonard was ordered to take the usual course, and a vote of thanks was extended to Drs. Leonard and Beck.

On motion of Dr. Reading, the Committee on Arrangements was empowered to spend an amount not exceeding $50 to procure proper badges for the next annual meeting.

On motion, the Society finally adjourned at 12:30 P. M.

WM. J. CHANDLER,

Secretary.

APPENDIX

TO THE

MINUTES.

APPENDIX TO THE MINUTES.

TREASURER'S REPORT.

DR. ARCHIBALD MERCER, *Treasurer*, in account with the Medical Society of New Jersey.

Dr.

July, 1900.	General Committee on Entertainment	$1,152 58	
June, 1901.	Atlantic Co., Assessment	70 00	
"	Bergen Co., "	74 00	
"	Burlington Co., "	58 00	
"	Camden Co., "	124 00	
"	Cape May Co., "	36 00	
"	Essex Co., "	406 00	
"	Gloucester Co., "	60 00	
"	Hudson Co., "	234 00	
"	Hunterdon Co., "	24 00	
"	Mercer Co., "	118 00	
"	Middlesex Co., "	52 00	
"	Monmouth Co., "	90 00	
"	Morris Co., "	100 00	
"	Passaic Co., "	148 00	
"	Salem Co., "	30 00	
"	Somerset Co., "	44 00	
"	Sussex Co., "	48 00	
"	Union Co., "	126 00	
"	Warren Co., "	40 00	
"	Cumberland Co., "	74 00	
"	Interest on U. S. Bonds	102 00	
			$3,210 58
To Cash balance in bank, June 1900			109 28
" U. S. Register Bonds			2,550 00
			$5,869 86

Cr.

June, 1900.	Dr. W. J. Chandler, Rec. Secretary..	$ 44 91	
"	Dr. H. W. Elmer, Chair. Stand. Com.	16 00	
"	Dr. E. W. Hedges, Cor. Sec	10 50	
"	Dr. Archibald Mercer, Treas... ...	13 71	
July, 1900.	Dr. O. C. Ludlow, Stenographer....	35 00	
"	The Orange Chronicle Co.....	37 25	
"	L. J. Hardham, Printing.....	19 25	
"	Dr. W. J. Chandler, Rec. Sec.....	6 83	
Oct., 1900.	L. J. Hardham, Transactions.....	631 00	
"	L. J. Hardham, Express Charges...	9 13	
Jan., 1901.	Dr. C. J. Kipp	1 12	
Apr. 1901.	The Orange Chronicle Co.....	3 25	
May, 1901.	The Orange Chronicle Co....	24 05	
			$ 852 00
June, 1901.	By Cash balance in bank, 1901.....		2,467 86
"	" U. S. Register Bonds...		2,550 c6
			$5,869 80

Report of the Committee on Business.

Mr. President and Gentlemen of the Medical Society of New Jersey:

The Committee on Business present the printed program for the Order of the Exercises of this, the One Hundred and Thirty-fifth Annual Meeting of the Society.

The success of the Annual Banquet at Allenhurst two years ago was so pronounced that a repetition at this meeting was considered desirable. Your Committee have omitted the Wednesday evening Literary Session to provide the time for social enjoyment at the Banquet. In colaboration with the Committee of Arrangements every effort will be employed to make this entertainment a more brilliant success than the previous one.

The Committee appointed to secure essayists to be selected successively by five of the County Societies, in each year, pursuant to a resolution passed at the last annual meeting, have been successful and the essayists selected for this year are Daniel Strock, Camden, "A plea for the Physician on the Witness Stand." Daniel Currie, Englewood, "The Modern Treatment of Gonorrhœa and its Com-

plications." W. B. Stewart, Atlantic City, "The Treatment of Neurasthenia." Samuel E. Armstrong, "Some of the Infections, their Genesis, Habitat, Consequences and Prevention." Joseph Stokes, Moorestown, "Diagnosis of Intestinal Perforation in Typhoid Fever." It is the earnest wish of the Committee that future work in this direction may annually add as much of scientific interest and advantage to the program. Your Committee recommend that the time limit upon all papers be rigorously enforced, also upon the time allowed for discussion of papers, and for the ordinary business questions incident to the progress of the meeting.

Your Committee would again call the attention of the members of the Society to the order, Presentation of Pathological Specimens, new Instruments and Apparatus. They had thought it probable that much of interest might be presented under this head. Their expectations have not as yet been fully realized.

Under the order reading of such papers as may be approved by the Business Committee, the following are presented: Dr. T. R. Chambers, Jersey City, "Treatment of Acute Otitis Media."

Dr. Carl Beck will continue the discussion on the X-Ray question. The discussion of the subject presented at the last meeting, which is of much scientific interest, will be opened by Dr. Charles L. Leonard, of Philadelphia.

The question proposed by the Business Committee for next year's discussion is, "What are the best methods to prevent the spread of Tuberculosis?"

The Business Committee desire to impress upon the members of the Society the importance of the general scientific work, and particularly request the preparation of voluntary contributions, reports of interesting cases or presentation of Pathological Specimens, new Instruments and Apparatus, as the program without such additional contributions does not fully meet the scientific requirements of the Medical Society of New Jersey.

Respectfully submitted,

WALTER B. JOHNSON, *Chairman.*
E. HOLLINGSHEAD.
ALEXANDER MCALLISTER.

REPORT OF THE CORRESPONDING SECRETARY.

PLAINFIELD, N. J., June 25, 1901.

To the Medical Society of New Jersey:

The Corresponding Secretary respectfully reports that during the past year he has forwarded copies of the Transactions of this Society to the Secretaries of forty-eight State and Territorial Medical Associations, to the Honorary members of this Society, to the various College and Historical Libraries in this State, and to several of the National Societies.

In return there have been received and sent to the State Library at Trenton, Transactions of the following States: South Carolina, Massachusetts, Maine, Florida, Washington, North Dakota, Louisiana, Wisconsin, Georgia, Kentucky, New Hampshire, Iowa, New York and Connecticut.

In accordance with Dr. A. W. Taylor's resolution passed by the Society in 1899, your Secretary notified the Secretaries of the District Societies of Atlantic, Bergen, Burlington and Camden counties, requesting their respective Societies each to select an essayist for this annual meeting. These gentlemen have been appointed and their names and subjects of papers appear upon our programme.

From time to time various inquiries have come to me from different parts of the State and Union, which I have endeavored to answer to the best of my ability.

Respectfully submitted,

ELLIS W. HEDGES, *Cor. Sec'y.*

ALTERATIONS OF BY-LAWS,

AS PROPOSED BY CHARLES J. KIPP, A FELLOW:

Chapter II, Section I, add after the word Treasurer, "Other Members of the Executive Committee."

Chapter II, add as Sec. 17, "The Executive Committee shall consist of the President, the Vice-President, the Secretaries, the Treasurer and three Fellows."

It shall be the duty of this Committee to manage the affairs of this Society in the interim between the meetings. The proceedings of the meetings shall be reported at the annual meetings.

The Fellows on this Committee shall serve for three years, and until their successors are elected.

Chapter III, Section II, add after Standing Committee, "and Fellows on Executive Committee." (See Chap. II, Secs. 7 and 17.)

REPORT OF THE DELEGATES TO THE NEW YORK STATE MEDICAL ASSOCIATON.

JUNE 24, 1901.

To the Medical Society of New Jersey:

Your Delegates would respectfully report that they attended the sessions of the above named Association held at the Academy of Medicine, New York City, Oct. 15th to the 18th. "The papers read were of the usual type of this large Association, replete with advanced ideas. It is hard to omit any, all were so well worthy of mention. But those on the technique in blood examinations, especially in the diagnosis of trichinosis with cases, together with those on special surgical tuberculosis of the nose and throat, with that of the eye and ear, were particularly instructive. A paper on tuberculosis of the sympathetic glands of the peritoneum, by Prof. Richardson, of Harvard University, attracted much attention. The daily luncheon served during the noon recess added much to the sociability of the sessions. The annual banquet at the Hotel Manhattan on Wednesday evening was a delightful entertainment, both in its distinguished *personel* and in the bountiful supply for the physical and intellectual parts of our nature.

Your delegates were warmly received and hospitably entertained. We were proud in being the representatives of the Mother State Society, to recognize in them such worthy offspring. We offer many thanks to the Chairman of the Dinner Committee, Dr. Frederick Holme Wiggins, for the special hospitable attention paid your delegates.

Respectfully submitted,

WILLIAM B. SILVERS.
DANIEL A. CURRIE.

REPORT OF COMMITTEE ON HONORARY MEMBERSHIP.

CAMDEN, N. J., June 24, 1901.

To the Medical Society of New Jersey:

The Committee on Honorary Membership would respectfully report that the name of Dr. Alfred A. Woodhull, of New Jersey, was proposed at the last Annual Meeting of this Society for Honorary Membership, and referred to the Committee.

Dr. Alfred A. Woodhull was born in Princeton, New Jersey, in 1837. Was a student at Princeton College, graduating in 1856, receiving the degree of A. B., and in 1859 the degree of A. M. In 1894 he had the honor of having conferred upon him the degree of L.L.D., from the Princeton University. In 1859 he graduated at the University of Pennsylvania, receiving the degree of M. D., and entered upon his professional career.

In 1861 he was commissioned an Assistant Surgeon in the United States Army, rank of Lieutenant, and in 1875, promoted to Surgeon, rank of Major. In 1894, promoted to Deputy Surgeon General, U. S. A., and again promoted to Assistant Surgeon General in 1900, with the rank of Colonel, retiring from active service this year, 1901. He also received Brevet Commissions for meritorious services during the late Civil War.

Your Committee also make note of the following record and services of Dr. Woodhull during his medical career in the U. S. Army.

He served as Chief Medical Officer, 2nd U. S. Infantry, Fifth Army Corps, through the Campaign of the Peninsula, Second Bull Run Antietam, Assistant to the Medical Director at Baltimore, with Administrative and Hospital work from 1862-1864.

In 1864, detailed as Medical Inspector of the Army of the James, Richmond and Appomatox Campaign, until the close of the War.

From 1865 to 1869 he was on duty in the Surgeon General's Office, where he prepared the well known and valuable Catalogue of the Surgical Preparations in the Medical Museum.

For many years succeeding he performed duty at the South and West, in Georgia, Kansas, Arkansas, Colorado, Idaho, Nevada and California.

During the Spanish War he was ordered to make special inspection and report on Camp Thomas, Chickamauga, then assigned as Chief Medical Officer of the newly built "Josiah Simpson Hospital,"

Fort Monroe, and in February, 1899, ordered to Manila as Chief Surgeon, Department of the Pacific, Eighth Army Corps, where he remained one year; afterwards was assigned to duty in the Museum and Library division of the Surgeon General's Office, until final retirement from active service.

In 1891 Dr. Woodhull was sent by the War Department to Europe as a Delegate to the Seventh International Congress of "Hygiene and Dermography," and also to visit and report upon the Medical Department of the British Army.

The printed reports and essays of Dr. Woodhull are as follows: Catalogue of the Army Medical Museum, Surgical Section, 1861; Report on Yellow Fever Epidemic in Savannah—American Journal Medical Science, 1877; Report on observations of the Medical Department of the British Army, 1893; Report on the Hygienic Uniform for enlisted men, 1867; Studies, chiefly clinical, on the non-emetic use of Ipecacuanha, 1876; Notes on Military Hygiene for Officers of the line, 1891—Second Edition, 1898; Account of the Proceedings of the Seventh International Congress of Hygiene and Dermography, N. J. State Board of Health, 1891; Prize Essay (Gold Medal) on the Enlisted Soldier U. S. Military Service (Illustrated) 1884.

In consideration of the distinguished Medical Career of Dr. Woodhull during his long and meritorious services in the Medical Department of the United States Army for a period of forty years, and after, now on his retirement, he has returned to his native State, making his home in Princeton, New Jersey, your Committee take pleasure in recommending his election as an Honorary Member of the Society.

Respectfully submitted,

H. GENET TAYLOR.
ALEX. W. ROGERS.
CHARLES J. KIPP.

REPORT OF THE STANDING COMMITTEE ON THE EXCUSES OF PERMANENT MEMBERS.

The excuses of Permanent Members who have been absent from two consecutive meetings of this Society, have been referred to the Standing Committee, and were discussed at a special meeting held in Trenton, May 20th, 1901.

The following were excused:

J. C. YOUNG, of Essex County.

H. G. COOK, of Middlesex County.

JOHN S. STIGER, of Morris County.

Those not excused were:

H. G. WAGONER, of Somerset County.

T. N. MCLEAN, of Union County.

Permit the remark that the object intended by the reviewers of the By-Laws in the establishment of the Permanent Membership was, that in the future there might always be available members, sufficiently conversant with the history and proceedings of the Society to render efficient aid in the promotion of its already acknowledged usefulness. This point does not seem to have been grasped by some of those now holding that position. We would, therefore, urge the District Societies to elect to Permanent Membership, *not* those who seek the position for the honor conferred, merely, nor those who desire it for the local prestige it may give them, but *only* those who have and will continue to have the very best interests of this Society at heart, and will manifest it by a constant attendance and assistance at its sessions, allowing no trifling cause to detain them from each recurring meeting.

Respectfully submitted,

H. W. ELMER, *Chairman.*

June 25th, 1901.

REPORT OF THE STANDING COMMITTEE ON THE REVIEW OF THE BY-LAWS OF THE DISTRICT SOCIETIES.

In order to carry out the instructions of this Society the Chairman of the Standing Committee requested the Secretaries of each District Society to furnish copies of their By-Laws. These were furnished by all except Bergen, and were carefully perused at the meeting of Committee held in Trenton May 20th, 1901.

So far as the question of Ethics is concerned all endorsed the codes of the American Medical Association, and of the Medical Society of New Jersey, and in no special point do the By-Laws differ from the requirements of the State Society. There are a few points, however, upon which your Committee beg leave to make suggestions.

1. AS TO THE TIME OF HOLDING THE ANNUAL MEETINGS. In order that the programs for the meetings of the State Society may be issued promptly, it is necessary that the annual meetings for the election of delegates should be held early enough to give the Secretary of this Society timely notice of their appointment and a list of the members. These should be handed in not later than the first of May. As some of the Societies do not hold their annual meetings till the middle of May or the first of June, we would suggest to them so to arrange that their annual meetings be not later than the first Tuesday in May.

2. THE ELECTION OF DELEGATES. In some Societies there seems to be no definite manner prescribed. We would call the attention of those who are thus lacking, to the Revised By-Laws, Chapter 1, Section 4, as to the manner of election, and suggest that they adopt a special form of certificate, to be signed by the President or Secretary, or both; that such a certificate be furnished each delegate to be presented by him to the Secretary of the State Society before he can be accredited as a delegate.

3. TOO OFTEN THE DISTRICT SOCIETIES ARE NOT REPRESENTED AT THIS MEETING. This brings up the difficult problem of compelling delegates to attend. It is no doubt true that the absence from home entails a financial loss as well as expenditure of time and money. It would seem that the benefit derived from mutual, professional and social intercourse, should more than compensate for these. As, however, this does not always appear, would it not be well, as is done in some Societies, either to donate funds from the treasury of the Societies to defray partially or entirely the expense of the attending delegates, or make the non-attendance, without valid excuse, sufficient cause for a non-election for a specified time.

4. THE ELECTION TO MEMBERSHIP OF PHYSICIANS, NON-RESIDENT IN THE COUNTY. This is in vogue to a considerable extent, in our opinion is radically wrong and should be prohibited. Its tendency is to detract from the weaker and add to the stronger Society. A member should be devoted to the interests of his own county Society and bend all his energies towards its betterment. We would respectfully suggest that all such memberships be discontinued, either by resignation or the election to Honorary membership, and in the future no such membership be allowed without permission being first obtained from the State Society.

If it were intended by the resolution that the minutes of the Society should be scrutinized, this has not been done; it would entail considerable research and expenditure of time, nor was it deemed necessary, as there was nothing developed which demanded it.

Respectfully submitted,

H. W. ELMER, *Chairman.*

June 25th, 1901.

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

Mr. President and Gentlemen:

With extreme pleasure, on behalf of the Committee of Arrangements and the Medical Profession of Monmouth County, I bid you welcome to the shore of our ancient, historical and grand old Revolutionary county.

We are pleased to believe from the frequency with which you honor us with your presence, that our section of New Jersey has attractions that merit your favor and appreciation.

Efforts were made by your committee to secure accommodations at Allenhurst Inn, the place selected for this meeting, but they so far failed that it was deemed expedient to make another choice; and Dr. George F. Wilbur, during my absence from town, after looking the field over, concluded that Hathaway Inn, at Deal, offered the most satisfactory attractions and inducements for your comfort and pleasure. We trust and believe that you will not be disappointed.

This portion of New Jersey's shore is so replete with superior advantages as a seaside resort, that it would be superfluous to mention them at length. It may not be inappropriate to mention that the absence of mosquitoes, the rich and fertile soil extending to the ocean, magnificent and varied drives, and the proximity to the great cities, are a group of important features that no other shore resort can command.

This is the oldest Medical Society in the United States, yet it has maintained the proud distinction of keeping abreast of medical and surgical progress. New Jersey stands second to no state in sanitary matters, largely through the efforts of our esteemed Second Vice-President, Dr. Henry Mitchell.

Medical science is unfolding and progressing, planting its standard far above the clouds of doubt and uncertainty, progressing in the

study of disease germs to an extent that it consumes almost ones entire time to be somewhat familiar with the various micro-organisms. The boldness and success with which the knife is wielded by a calculable science inspires our awe, and makes us exclaim "wonderful!" as by majestic sweeps the patient is released from the certain grasp of death. We are not, as the other professions are, governed by tradition, precedent and buried works of the past.

What loftier and more engaging ideas of honor, duty and urbanity are offered, than are found in the unblemished career of the great army of the followers of Æsculapius and Galen. Does not every man feel that his own personal security depends upon the medical profession? It comes home in its effects to every man's fireside; it passes upon his life—his all. I believe that the greatest scourges ever inflicted on an ungrateful and sinful people are the quack, charlatan and ignorant physician.

All that is not of God comes short of perfection, and the lack of perfection proves to us that much is still wanting. It is desirable that we should always mark the precise point in which we are deficient, that penetration may declare: "This is what we might have and what we do not possess."

If we examine the anatomy of the most insignificant animal, if we view the minutest micro-organism that the anatomists have so far failed to dissect, if we observe with attention to the arrangement by which a rosebud expands under the rays of the sun and closes at the approach of night, we shall discover more perfection than has been obtained by all the works of art or science, beckoning the investigator into new fields of discovery.

"If so much thought and penetration," says Minutius Felix, "is required only to examine the order and wonderful design of the structure of things, how much mightier must that wisdom have been which formed all."

Chance has no place in medicine. All knowledge must be had by observation, investigation and experience; and the records of worthies in the profession all down the corridors of time, reveal the assiduity and ardor with which they labored.

A traveller penetrating into the Sais, the country of ancient Thebes of a hundred gates, would find it now deserted; but would discover columns, pyramids, obelisks, and inscriptions in unknown characters. Is it likely that he would say "This place has never been inhabited

by man; human hands have never labored here; it is chance which has formed these columns; which has placed them upon their pedestals and crowned them with their capitols, all in such just proportion; is it chance which has so firmly united the pieces that form the pyramids, is it chance which has hewn the obelisk from a single stone and engraved upon it all these characters? No! Would he not rather say with the most certain conviction of which the mind of man is capable, "These magnificent ruins are the remains of the majestic architecture which flourished in ancient Egypt."

So retrospect and research reveal to us many evidences of advanced thought and works far back in the misty past. Thus lingers the good work of active and honored lives, long after their sun is set.

Again I bid you all a most cordial welcome, and trust that this meeting will supply pleasure and profit in its most happy blend.

S. JOHNSON, *Chairman.*

REPORT OF THE STANDING COMMITTEE.

Mr. President:—It is, probably, no less difficult for the Standing Committee to give "a summary of the medical history of the State, together with other items of interest contained in the reports of the district reporters" with the meagre assistance furnished, than it is for the district reporters to comply with the laws governing them with the small aid given.

But eleven counties have furnished reports—Atlantic, Bergen, Burlington, Camden, Cumberland, Essex, Mercer, Morris, Somerset, Union and Warren. The difficulty, if the reporters are correct, is not due to the lack of interest in medical societies. In these the interest is not on the wane, the attendance is good, the papers and discussions are of a higher order, show a greater degree of investigation, and will amply repay perusal. The difficulty arises in the fact that members cannot be persuaded to put their ideas and cases in writing at once. We are a procrastinating set in matters not strictly involved in our daily routine, and the procrastination results in our final failure to perform. But the "faithful few" always "rise to the occasion," and to read the reports from some district societies without finding certain contributors, would be a "Hamlet without a Hamlet." You ought, and I do, thank them for their assistance.

The plan of dividing the meetings into sectional work has been adopted by many societies and is growing in favor. It works advantageously in the production of better papers along special lines, more intelligent discussions and more attractive to members, while the custom of inviting men of note from the medical centres to read papers at the various meetings, is the rule and not the exception. Burlington, Camden and Mercer are foremost in this matter and speak enthusiastically of its attractiveness and usefulness.

The usual report, heretofore rendered, of an "exceedingly healthy" condition, does not seem to have been the case during the past year throughout our State, and although the summer and fall months differed in nothing material, yet the winter and spring have had more than the usual amount of sickness.

The grip, while not so severe in character, has been followed almost universally by sequelæ in the form of pulmonary complications—pneumonia notably, otitis and gastro-intestinal disorders. Special mention is made of the decided increase in the number of cases of pnemonia, of one and both lungs, by Camden, Bergen and Mercer, and some fatal cases, though, as might be expected, the majority recovered. No new plan of treatment is mentioned, but the reporter of Mercer county, after narrating several cases treated with salicylate of sodium, by Dr. Clark, gives his (Clark's) conclusions, viz.:

(1) If given early and in full doses, it will often abort or favorably influence most cases of lobar pneumonia and is worth a trial.

(2) That while in some cases it reduces the fever, it does not ameliorate other symptoms nor influence the secondary involvement of the other lung, or the subsequent development of cerebral meningitis.

Rubeola and pertussis have prevailed very extensively and Dr. Wyler, of Bergen, makes mention of the unusual fact that in 33 per cent. of his cases of pertussis, having run the usual course and entered convalescence for two or three weeks, a distinct relapse occurred, in which the paroxysmal cough reappeared for about three weeks.

Scarlet fever has occurred throughout the State frequently, and during the entire year in Burlington county, due, so Drs. Taylor and Marcy think, to the extreme mildness of the attack and the indistinct eruption, so that in very many cases no physician is consulted, no quarantine measures are adopted, and the children are allowed to mingle with their playmates after two or three days. Dr. Taylor also enters his protest against the ill-advised method adopted by some

physicians, of making a distinction between scarlet fever, scarlet-rash and scarlatina, to the families, maintaining that as they are one and the same, the parents should be so instructed and no physician should attempt to cajole his patients with any other idea, in view of the fact of their contagiousness and dangerous sequelæ.

Diphtheria is sparingly reported. In Mercer county, Drs. Strubel and McGalliard give interesting accounts of a series of cases of intubation—the first in cases other than diphtheria, and the latter in cases of diphtheria where anti-toxin, first used, had failed to give relief.

The epidemic which has aroused the most attention, occurring in various parts of the State, is variola.

Camden county makes mention of several cases occurring in Gloucester City, which the prompt action of the health authorities prevented from spreading. Burlington county reports an outbreak in Mt. Laurel Township, occurring in two negroes, living near a church in which "revival services" were being held. So mild as not to have been recognized in the beginning, it spread until fifteen were infected, all but three being negroes. Through common rumor, it has existed from that county. One case occurred in Shiloh, Cumberland county, in Woodbury, Gloucester county, but no report has been received and although the infected person resided one day in a family in Bridgeton, and visited several others during his stay, before consulting a physician, there was no further outbreak. Union county reports an isolated case. We know that it has existed in other portions of the State, but as no reports have been received, no mention as to particulars, can be made. Great credit is no doubt due to the Health authorities for their prompt action in adopting strict quarantine and urging, if not enforcing, vaccination, in limiting this almost forgotten plague. Investigation has proven to what neglect vaccination has fallen; how many have never been vaccinated in childhood, and a largely increasing number have never been revaccinated. Has not the rarity of the disease, the hue and cry of the anti-vaccinationists led the physician no less than the laity, to become indifferent to this important and protective method, and is it not our duty to urge the people to guard themselves by allowing so simple a measure to be used. While the cases have been mild, the fact is proven that those vaccinated, even if only in childhood, have had far less severe attacks than the unvaccinated.

A perusal of the county reports will show many interesting papers

and cases. Dr. McGilliard, of Trenton, mentions a case of Lupus Vulgaris treated by the Finsen method of exposure to the solar rays, eliminating the heat by the interposition of a solution of ammonia resulting in a complete cure after eighty-five treatments of an hour each, and occupying a period of 200 days. Dr. Cantwell, of the successful results in a case of incarcerated hernia by the use of the Murphy button, the first successful case in Trenton. Dr. Mecray, of Camden, of the complete control of hemorrhage by the use of the Weyeth pins, in an amputation of the hip. Dr. Wyler, of Bergen, of a novel cure for toothache, administered by a solicitous parent to a child, aged 13: 12 oz. of brandy, administered in 10 doses at short intervals. The tooth-ache was cured but the child died.

But little mention is made of any hygienic or sanitary advancement. Indeed, so natural has it become to expect local boards of health to attend to all these matters, no notice is taken of them unless something extraordinary attracts attention. But two counties make any mention of hospitals. Mercer reports "our hospitals have been doing good work throughout the year," and Somerset, that a new hospital, Somerset Hospital, has been established at Somerville, is doing good service and many capital operations have been performed there.

Essex county reports the establishment in Newark of "The Medical Club," composed of the female members of the medical profession in that section, with flattering outlook for success.

A Medical Library Association has been established in Orange, called "The William Pierson Library Association," "to perpetuate the memory of a great medical man, by founding a library; instituting medical lectures of scientific interest, establishing a medical reading room, and by forwarding all subjects of interest to the medical profession." Towards this object, the Association has Dr. Pierson's library of one thousand volumes, and an endowment fund of five thousand dollars given by Mrs. Pierson.

The replies to the question for discussion "As to the value of the X-rays from a medico-legal standpoint" are few, probably because as yet, the profession has had but little experience. Dr. Taylor, of Beverley, thinks a skilled interpretation of the photograph a necessity, and the exhibited pictures, in many cases, obscure. Dr. Small, with slight medico-legal experience, thinks the rays good for detecting fractures, and often fractures are shown where none were suspected. Dr. Iszard would not risk his professional reputation on the photo-

graph, but thinks them good for the clinician. Dr. McAllister thinks, while they are admitted as evidence by some courts, and suits for damages will arise, based on these findings, yet they cannot form a basis for the amount of damages, as they do not show the amount of damage to the soft tissues nor the amount of disability incurred.

The following papers have been received:

Report of a Fibro-cystic Tumor of the Uterus. T. W. Harvey, Orange.

Report of a Case of Cæsarian Section. David St. John, Hackensack.

Report of a Case of Stranguluted Hernia. David St. John, Hackensack.

A Description of a New Rib Shears. David St. John, Hackensack.

The Great Reaper has been active and has removed from our membership during the year past, the following:

Bergen—John Adams Wells, Englewood, May 20, 1901.

Burlington—Franklin Gauntt, Burlington, July 7, 1900.

Essex—Joseph David Osborne, Newark, June 1, 1900; William Pierson, Orange, June 12, 1900; Thos. Page Edwards, Newark, July 4, 1900; Henry T. Herold, Newark, July 25, 1900; William Spencer Ware, Newark, September 1, 1900.

Mercer—William Rice, Trenton, February 13, 1901.

Passaic—Calvin Terriberry, Paterson, June 9, 1901; George L. Rundle, Passaic, January 9, 1901.

Somerset—Adonis Nelson, Neshanic, March 2, 1901; W. E. Ribble, East Millstone, June 8, 1900.

Union—W. A. M. Mack, Elizabeth, January 14, 1901.

Warren—William Stites, Washington, March 8, 1901.

Respectfully submitted,

H. W. ELMER, *Chairman.*

June 25, 1901.

Report on the Progress in Surgery.

BY CHARLES YOUNG, M. D., NEWARK, N. J.

The range is so broad that it has seemed more profitable to make excerpts concerning those subjects in which during the past year there has been the greatest activity, rather than to take a swallow-dip into a great number of subjects.

SPINAL COCAIN ANALGESIA is by degrees being assigned to its proper position. Tuffier, to whom may be credited the distinction of being its god-father, has recently published in *Semaine Medicale*, No. 51, 1900, the results of his experience. He has tried the method in 252 major operations. He finds that as a rule there is much less post operative shock than after general anæsthesia. In discussing the indications and contra-indications of this method he states that men are better subjects than women. The method is not applicable to infants or to hysterical patients on account of terror caused by the conditions of the operation. There need be no hesitation in using it in subjects of cardiac disease or arterio-sclerosis. In extra peritoneal operations, that is to say, in all surgical interventions in the lower limb, hip, perineum, anus, rectum, vagina, testicle and urinary organs, the surgeon may rely on spinal cocainization with a full sense of security. In operations on the lung and pleura, in which the use of ether and chloroform is attended by serious inconvenience, it is held to be the method of choice when the surgeon is about to attack the chest within the limits of the lower two-thirds. On account of the frequent occurrence of vomiting, during the period of analgesia, it is likely to cause embarrassment, especially to an operator of little experience in abdominal surgery, in operations on the liver, stomach and intestines. For this reason the author would not encourage his colleagues to apply this method in the major operations of intro-peritoneal surgery.

OPERATIVE TREATMENT OF CIRRHOSIS OF THE LIVER.—(*American Journal Medical Sciences*, Dec., 1900). Charles H. Frazier, of Philadelphia, contributes an article on this subject. In 1889 Von de Meule performed an operation to establish additional venous channels for return circulation, but patient died of shock. Schelky tried the same operation in 1891, but the case terminated fatally, death being due to peritonitis. In 1892 Lens, of Holland, reported a case in which he sutured the omentum to the wound. The patient lived 6 months, during which time he was tapped four times. Mr. Rutherford Morison's first case was also unsuccessful, but in the second case he obtained some substantial results. Previous to the operation the patient was tapped frequently but after the operation she lived 2 years without any reaccumulation of fluid, death being due to ventral hernia. At the autopsy "the entire contents of the abdomen were removed en masse, and the vessels of the portal system were injected. The liver, spleen and

omentum were adherent to the parietal peritoneum by strong bands of fibrous tissue; the liver was atrophic and had undergone fatty degeneration; the spleen was four times its normal size." Since Oct. 22, 1895, the date of Morison's second operation, nine others have been recorded, making a total of 14 cases reported. The object of the operation is to open another channel for the relief of the obstructed portal circulation. The technic is simple. The abdomen having been opened the peritoneum of the adjacent surfaces of the diaphragm, liver, spleen and the peritoneum on either side of the wound are scarified with a blunt curette or rubbed with a gauze pad. The omentum is sutured to the parietal peritoneum for a distance of 3 or 4 inches on either side of the wound and to the margin of the wound itself. The wound is closed without drainage. The operation is absolutely dependent for its success on the retained function of the liver cells.

DECORTICATION OF THE LUNG FOR CHRONIC EMPYEMA.—(*Medical News*, June 15, 1901). Geo. Ryerson Fowler, M. D., Brooklyn, contributes an article presented to the American Medical Association at its meeting in May last. The term is applied to designate a procedure intended to relieve the lung from its environment in cases in which expansion is prevented or interfered with by the presence of a greatly thickened pleural covering. The first operation of the kind on record was done by the writer, October 7, 1893, and reported in the *Medical Record*, December 30, 1893. The conception of the operation was original with the writer, and was designed for the purpose of permitting, by a formal and radical removal of the greatly thickened and adherent pleura, of the expansion of the lung as well as the obliteration of a suppurating cavity, the existence of which was a serious menace to the patient's health. Delorme, before the Congress Francaise de Chirurgie had reported on April 3 previous, some experiments made upon the cadaver with a view of determining the feasibility of such an operation. Delorme's first operation on a living subject was not until January 20, 1894, and was reported before the Academie de Medicine, published in the *Presse Medicale*, Paris, 1894. The operation has been completed or attempted 41 times; 3 operative deaths have been reported. In many cases the report of the results as to function have been incomplete. Fowler has culled 30 cases of those reported, which are of sufficient clearness to serve as a basis for statistics. Of these there were:

Cured, 11.
Improved, 6.
Unimproved, 9.
Died, 3.
In doubt, 1.
(A recent case).

Dr. Fowler draws the following conclusions: (1) Decortication of the lung is an operation adapted to all cases of old empyema, in which extensive and pre-operatively discoverable tuberculous lesions are not present, and in which the patient's condition will permit of a major operation. (2) It may be advantageously substituted for Estländer's operation in the majority of instances, in which the latter has been considered, up to the present time, as being indicated. Since it is a more rational procedure in that it combines the advantages of restoration of function of the lung, so far as this is possible with closure of the empyemia cavity. (3) It should replace Schede's operation in all cases. (4) The method of extirpation of the diseased portion of the pleural membranes, including the visceral, cortical and diaphragmatic portions, is the operation of choice. (5) Failing this, visceral pleurectomy should be selected. (6) Pleurotomy, with simple detachment of the visceral layer of the diseased pleura gives sufficiently good results to warrant the surgeon in resorting to the procedure in cases in which the condition of the patient will not permit of the application of the other and more desirable methods. (7) Whatever operative method is adopted, as complete access to the cavity of the chest as possible should be obtained, and rapid closure of the opening in the chest wall afterward obtained, since the complete re-expansion of the lung must depend largely upon the normal respiratory movements. (8) Pulmonary or respiratory exercises should not be neglected in the after-treatment, since these aid greatly in the restoration of the function of the lung.

OPERATION IN TYPHOID PERFORATION.—(*Annals of Surgery*, May, 1901). In an article on this subject, H. Cushing says: "Just so soon as the symptom complex indicates that a perforation has occurred, should an exploratory laparotomy under local anæsthesia be undertaken. The analogy between this condition, and that encountered in appendicitis is striking. Here the earlier the operation, the better the results, so far as life saving goes. As in appendicitis, so in typhoid perforation, there are cases in a pre-extravasation stage, the cases in

the state of localized peritonitis and the cases of generalized peritonitis, with all the chances for best results in favor of those in which the diagnosis and intervention are had in the earliest possible period. Keeping these facts in mind, and ever watching all typhoid fever patients for any abdominal signs, the attending physician will be able to call in the surgeon early enough to make the statistics of those saved among all fully 50 per cent. by early operation."

PANCREATITIS.—The *British Medical Journal*, May 11, 1901, contains an address on pancreatitis, delivered before the American Surgical Association by A. W. Mayo Robson, F. R. C. S. In it he discusses the relations between fat necrosis and hemorrhage; the relation of of gall-stones to pancreatic disease, and to the treatment of pancreatitis generally. Even though surgeons have been removing gall-stones for a hundred years, it has never dawned on them that whatever obstructs the common bile duct at its lower end must also of necessity lead to an obstruction of the pancreatic duct. Even today infective and suppurative catarrh of the pancreatic ducts has received no place in the medical text book, which means that diseases of the pancreas are omitted except those producing gross organic changes, such as cancer. Acute pancreatitis, cysts, and calculi have been practically ignored. Hitherto no pathognomonic sign has been discovered which will show conclusively that the pancreatic ducts are occluded, unless it be extremely rapid loss of weight. But even for fat necrosis to have taken place, there must probably have been some escape of the fat splitting ferment from the gland and, therefore, the lesion of the pancreas must be somewhat advanced before the sign is evident. Glycosuria, lipuria and fat in the stools occur too seldom to be of much use in the diagnosis of pancreatic disease. The tissues of pancreas are comparatively soft and easily bruised. In cases of obstruction of the common duct, pus can usually be expressed from the duct of Wirsung. Dr. Walker, of Peterborough, has shown that even when bile is present in the intestinal canal, absence of the pancreatic secretion from the intestine led to pale colored motions. The essential and immediate cause of the various forms of pancreatitis is bacterial infection, but we find biliary and pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus or duodenum, and zymotic diseases, such as typhoid fever and influenza, to be determining factors, though in some cases, pancreatitis has come suddenly in persons in robust health, and the determining cause has been beyond

recognition. Though the infection may arise from the blood, as in pyæmia, or by direct extension from the neighboring tissues, as in ulcer of the stomach, yet the most usual channel is through the duct, as in the cases arising from gall-stones in the common duct and from gastro-duodenal catarrh. The association of gall-stones with chronic pancreatitis was forced on the mind by the frequency with which inflammatory enlargement of the head of the pancreas was found during operation for gall-stones in the common duct. It is a simple matter to infer that if common duct lithiasis can give rise to chronic pancreatitis it will be likely to induce the sub-acute and acute forms of the disease. In some cases related gall-stones were not found, but only old and firm adhesions, with an antecedent history of paroxysmal attacks, followed by jaundice. The fact that fat necrosis is not found in all acute pancreatic diseases, and that it has been noted during abdominal operations for other ailments, and in necropsies, where there was no suspicion of pancreatitis, appears to show that the condition giving rise to it is not necessarily a pancreatitis, though these facts do not disprove that fat necrosis is essentially due to interference with the discarge of pancreatic secretion, and so to an escape of pancreatic fluid into the tissues, whence it may be taken up by the lymphatics or blood vessels. Flexner and others regard the fat necrosis as the effect of the fat splitting ferment of the pancreatic fluid, which has in some way escaped from the duct into the surrounding tissues. It is difficult to explain the patches of fat necrosis at a distance from the pancreas, except on the theory that the fluid is conveyed by the lymphatics. It is well known that local hemorrhages into the pancreas may occur apart from injury and apart from any general hemorrhagic tendency, and that although they may be recovered from, as shown by the remains of extravasated blood in the gland in persons dying from other disease; yet such spontaneous hemorrhages may lead to death from collapse, either immediately or in some hours. Curiously, this may occur in persons in apparently good health and without any premonitory signs on which a diagnosis can be based, the only symptoms being those of collapse with dyspnœa and a feeble pulse. It was also well recognized that a hemorrhagic condition coexists with cancer of the head of the pancreas. Experience has shown that there is much less danger of serious hemorrhage in patients jaundiced from gall-stones, than in those where the jaundice depends on pancreatic disease. In several cases of cancer of the pancreas

operated on, bleeding has been the immediate cause of death. In one case, death occurred on the third day. At necropsy, there was found extensive effusion of blood away from the site of operation, and behind the peritoneum, extending into loins around the kidneys and into the cellular tissues beneath the diaphragm, the blood being in sufficient quantity to account for death. No sufficient lesion was found to account for hemorrhage. In another case, there was persistent, uncontrollable oozing of blood, which proved fatal on the ninth day. Before operating on these cases, Mr. Robson recommends calcium chloride in 30 to 60 gr. doses, three times daily for 24 to 48 hours previous to operation, and by enema in 60 gr. doses three times daily for 48 hours afterwards. Mr. Robson concludes (1) that in certain diseases of the pancreas, there is a general hemorrhagic tendency, which is much intensified by the presence of jaundice; (2) that hemorrhage may apparently occur in the pancreas unassociated with inflammation or with jaundice or with a general hemorrhagic tendency; (3) that both acute and chronic pancreatitis can and do frequently occur without hemorrhage; (4) that some cases of pancreatitis are associated with local hemorrhage.

PANCREATIC DISEASE AND FAT NECROSIS AS A COMPLICATION OF GALL-STONE COLIC.—Eugene Opie, of Johns Hopkins University (*Amer. Jour. Med. Sciences*, January, 1901), calls attention to the occurrence of pancreatic disease as a complication of gall-stone colic, the method of its occurrence, and the nature of the lesions which ensue. Körte Lancereaux and other recent writers refer to the possibility of obstruction of the pancreatic duct owing to the presence of a gall-stone lodged in the common bile duct at the level of the diverticulum of vater, and point out that inflammation can extend from the occluded duct to the gland. When the bile duct is occluded, jaundice soon makes its appearance, but when the pancreatic duct is blocked no such pigmentary indication is afforded of the fact. The dammed-up pancreatic juice, however, makes its way backwards into the interstices of the gland and by its action on the fatty tissue around produces areas and foci of fat necrosis, owing to the splitting up of fat into fatty acids and glycerine. The fatty acids being insoluble remain in the fat cells, and subsequently unite with calcium salts, while soluble glycerine is absorbed and carried away. The investigations of Langenhans, Dettmer, Williams and Flexner have shown that the active factor in the production of such fat necrosis is the fat-splitting ferment of the pancreatic juice. In a series of experiments recently published,

Opie has shown that ligature of both pancreatic ducts in the cat causes very wide-spread fat necrosis, involving almost the entire abdominal fat, at times the pericardial and subcutaneous fat, and reproduces the wide distribution observed in human beings and in animals. Fat necrosis may thus be regarded as an index of pancreatic obstruction as jaundice is of biliary obstruction. If the ducts are ligated and pilocarpin is administered to the animal in order to stimulate the secretion of the pancreas, the dissemination of the fat necrosis is much hastened and very widespread focal fat necrosis rapidly occurs. In men this condition occasionally follows occlusion of the duct by calculi or by carcinoma. Several cases are cited where gall-stones were found lodged in the common bile duct near its orifice, in such a position that they might at the same time acclude the pancreatic duct. In some cases, recent hemorrhage had occurred into the pancreas. It is difficult to determine whether these cases should be classified as examples of simple hemorrhage, or of hemorrhagic pancreatitis. In one case recorded there was evidence of past hemorrhage into and about the pancreas, accompanied by necrosis of a small portion of the organ. The remainder of the organ was the seat of chronic interstitial change, and apparently as the result of the invasion of micro-organisms into the hemorrhagic and necrotic tissue, an abscess, limited by the lesser peritoneal cavity, had formed about the organ. Ligation of the pancreatic ducts in animals does not cause hemorrhage, or hemorrhagic inflammation. By injecting the bacillus pyocyaneus and the bacillus diphtheriae, Flexner obtained intense hemorrhagic inflammation of the gland, in several instances within forty-eight hours. It is conceivable that partial occlusion of the pancreatic duct, associated with invasion of the retained secretion by micro-organisms from the duodenum might cause a similar hemorrhagic lesion. Dr. Opie concludes that the lodgment of a stone near the orifice of the bile duct, where it may at the same time compress and occlude the duct of Wirsung is not uncommonly a cause of pancreatic lesions and disseminated fat necrosis. Should a calculus become impacted, one of several conditions may result. (1) An individual, usually in fair health, with perhaps a history of gall-stone colic, is suddenly attacked with pain in the epigastric region, accompanied by vomiting and followed by collapse. Death usually occurs in forty-eight hours, and at the autopsy gall-stones are found in the bile passages, while that one which caused the fatal attack may be lodged in the common duct near its orifice.

The pancreas is enlarged, infiltrated with blood and hemorrhage may have occurred into the surrounding tissues. Foci of fat necrosis are usually present. (2) A fatal termination may not rapidly follow the symptoms mentioned. Pain in the epigastrium persists, jaundice may be present, and a tumor mass above the umbilicus may indicate a probable lesion of the pancreas. At the end of one or more weeks or months, death occurs, often with symptoms indicating the presence of suppurative inflammation, presumably in the neighborhood of the gland. At autopsy, the diagnosis of cholelithiasis is confirmed by the presence of gall-stones in the gall bladder or bile ducts and occasionally the offending calculus is lodged near the junction of the common bile duct and the duct of Wirsung. The pancreas is dry, black and necrotic, and evidence of previous hemorrhage may be present. Secondary infection has occurred and the pancreas lies in an abscess cavity formed by the bursa omentalis. In the wall, often widely disseminated in the abdominal fat, are foci of necrosis. Since the individual has survived the primary lesion, opportunity has been given for the development of secondary changes in the injured pancreas and neighboring fat. (3) In certain instances, long continued or repeated obstruction of the pancreatic duct by gall-stones does not cause the acute lesions described, but produces chronic inflammatory changes.

SUBCUTANEOUS RUPTURE OF THE INTESTINE.—(*Archiv Für Klin. Chirurgie Band 61. Heft 4*). Von Augerer says that during the past four years he has operated on nine cases of this injury, and only two cases recovered. Rupture of the intestine from contusion of the abdomen resembles quite closely perforating wounds of the abdomen as far as the treatment is concerned, but differs radically in the difficulty of diagnosis. Early diagnosis is very important in order that the abdomen may be promptly opened. After 24 hours have elapsed there is little hope to be had from operating. As to symptoms, which will enable an early diagnosis to be made: first, the kind of injury is important; a localized force, such as that caused by a horse's kick, is more liable to cause rupture than is a general contusion. In cases where the symptoms of shock do not, during the course of a few hours, tend to ameliorate, or where they, instead of decreasing, increase, something more than pure shock should be suspected. The pulse is always an important indication, though the increase in frequency may not come on for several hours after the accident. The cessation of abdominal breathing is an indication of

trouble. Vomiting coming on immediately after the injury, and especially when it increases in severity, is an almost positive sign of some injury to the intestinal tract. Pain is an important symptom when it increases in severity, but many cases complain of no pain. A rigidity of the abdominal muscles is an important sign of intestinal irritation. Paralysis of peristalsis results from contusion of the intestines and is manifested by the passage of neither feces nor flatus. Urination is also somewhat hindered. During operation examination of intestines should be thorough, as the ruptures are most apt to be numerous.

In the *British Medical Journal*, January 5, 1901, Mac Pherson Lawrie reports a case of movable kidney, which produced the usual symptoms of heptic colic, and which was successfully treated by nephrorrhaphy.

SURGICAL TREATMENT OF PULMONARY GANGRENE.—*Wiener Med. Presse*, December 16 and 23, 1900. Herczel contributes an account of a case of pulmonary gangrene successfully treated. It follows croupous pneumonia. The brown stinking expectoration contained fat crystals, elastic fibres, streptococci and other cocci, but no tubercle bacilli. Herczel remarks that about a quarter of the number of recorded operations on the lung have been for gangrene, and a sixth for pulmonary abscess. Of the 91 operations for gangrene, 60 or 61 per cent. have been successful. Expectant treatment is practically always fatal and is therefore injustifiable. For abcesses, though evacuation may take place through a bronchus, operation is also the best treatment. Gangrene following croupous pneumonia gives the best prognosis; that following influenza is more fatal, and the most fatal of all is that due to perforation of the œsophagus. In gangrene the use of an exploring needle before the pleura is freely exposed is injustifiable, since unless the visceral and parietal layers of the pleura are adherent, putrid pleurisy may follow, or a layer of healthy lung tissue in front of the cavity may be infected. There is also danger of wounding a large pulmonary vessel. The removal of ribs is always necessary. If the layers of the pleura are adherent, which is evidenced by retraction of the intercostal spaces, during inspiration, and by a fine needle not moving with respiration, when inserted into the lung, the incision with the cautery may be made at once. If, however, they are not adherent, the two layers may be sutured together, so that the pleural cavity is shut off before the incision into gangrenous lung is made.

THE SURGERY OF LIVER ABSCESS.—(*Archiv f. Klin. Chirurg. Band* 61, *Heft* 1). Smits publishes the results of his experience of hepatic abscesses in the Island of Batavia. In eight years he has operated on 21 cases with 18 recoveries and 3 fatal results. Whenever the existence of a purulent deposit in the liver is suspected, the surgeon should promptly search for it, if possible localize it and when found lay it freely open. The classical indications, both objective and subjective, are regarded as unreliable, and when most marked and most suggestive, either singly or in association, usually occur in advanced stage of the disease, when the prospects of operative treatment have become unfavorable. Much value is attached to exploratory puncture. By this minor operation the surgeon will be enabled to discover the abscess not only in advanced and well marked cases but also in cases in which the ordinary methods of clinical investigation and the combination of their results fail to afford any definite information. The author, in discussing the objections to exploratory puncture, especially those made on the probable dangers of septic infection and hemorrhage, states that when pus is found a radical operation should at once be practised and that the needle should not be used, when the abscess is supposed to be seated near the anterior margin of the liver, or in the left lobe. In such cases, he would freely expose the liver by exploratory laparotomy. Exploratory puncture, when practised with strict regard to ascepticity is regarded as an absolutely safe procedure. He describes at length the method practised in most of his own cases. This consists in a free exposure of the affected portion of the liver, either by an abdominal incision or by the transpleural operation with partial resection of one or two ribs, in plugging the wound with sterilized gauze in order to set up adhesions, and subsequently, when firm adhesions have formed, in opening the abscess by means of the actual cautery. Such practice proved successful and resulted in complete recovery in 16 out of 19 cases. The sole objection to be urged against such treatmeat is the interval required for the formation of adhesions, and the risk during the interval of the perforation of the abscess, either into the wound or into some internal organ. In cases in which it is necessary to complete the operation at once, it is very important to prevent by careful suturing the escape of pus into abdominal or pleural cavity. In the *American Journal Medical Sciences* for October, 1900, W. E. Schroeder, Chicago, contributes an illustrated article on pedicled flaps in injuries

of the hand. In the methods of Thiersch, or the free flap method, neither elasticity nor resistance is furnished in the palm of the hand. It has been shown that in Thiersch's graft the elastic fibres all die and only a very thin layer of epithelial cells remains. This is insufficient to prevent sloughing when the hand is used. The advantages of the pedicled flap are mobility, elasticity and certainty of taking. The article presents the subject clearly and succinctly and is a clever illustration of progress in reparative surgery.

FRACTURES OF THE NECK OF THE RADIUS.—(*Revue de Chirurgie*, May 10, 1900). Mouchet points out the fact that the Roentgen rays have shown that these injuries are much more frequent than have been supposed. They may be complete or incomplete, though the latter is rare. The line of fracture may be through the neck of the radius or just below it, and may be transverse or oblique. The ligaments are frequently ruptured. There is always a swelling, which is frequently due to extravasation between the muscles, which are more or less ruptured. Displacement is variable, sometimes absent; sometimes there is impaction. Usually the lower fragment is carried anteriorly and upward by the action of the biceps muscle. The attitude is almost pathognomonic. The elbow is flexed at an obtuse angle, or may be at a right angle. The hand is in pronation or semi-pronation and supported by the other hand. It is never in complete supination. There is a swelling of the forearm muscles, due to exudates and not to displacement. It varies in amount. Pressure over radial head produces pain that is very limited but very acute and just in the region of the radial head and neck. Attempts at supination increase the pain. Supination to any extent is always impossible.

TENDON SURGERY.—(*Annals of Surgery*, May, 1901). F. S. Coolidge advances the following points for guiding the operation in tendon surgery; especially that which concerns the subject of infantile paralysis. The time for doing the operation should be when the reparative process has come absolutely to a standstill. Massage and electricity should be applied until all progress under them has ceased, and when it is precisely evident what muscles are affected, permanently or partially, or have escaped. Regard must be had for the proportion between the strength of muscle to be grafted and that of the muscle lost, and especial care must be taken not to overstretch the muscle grafted. Examples have occurred where by patience the

peroneas tertius performed the functions of the tibialis anticus, and when the sartorius after a few months made a good extensor instead of the quadriceps. Two weak tendons can be made to supplant one strong one. Muscle substance cannot be successfully grafted, one into another, hence the tendons are the best means of doing this. The suturing can best be done above the annular ligament, although it is possible to suture below also. The tendo Achillis has no annular ligaments. A tendon can by blunt dissection be carried a long distance before the grafting is done beneath the fascia or the skin. A muscle of the calf has been carried through the interosseous and grafted upon an anterior muscle of the leg. The end to end or the side to side method of suture is not very secure. Consequently the normal tendon is now split a short distance and the paralyzed tendon is carried through it and sewn in situ. Chromicized cat-gut with a life of from 4 to 6 weeks ought to answer every purpose and is the best for all-around use. Plaster of Paris splints for two months more with gradually increasing passive movements, and finally active motion, finish the treatment.

SEPARATION OF THE EPIPHYSES OF HUMERUS AND RADIUS.—(*Lancet*, May 30, 1901). Rupert Bucknell reports six cases of separation of the epiphyses. In the first examination of all injuries about the elbow joint in young people, he strongly recommends the use of a general anæsthetic, in order that the exact condition may be determined. He finds that a molded gutta percha splint is more satisfactory in these cases than a splint of wood or metal. In most cases the arm was dressed in flexed position. He urges early passive motion in these fractures, in order to prevent adhesions and limitation of motion. This is usually begun about the tenth day and increased each day, the separated portion of bone being held firmly with the hand. If a separated epiphysis has been allowed to go without treatment and no union has taken place, it is oftentimes better to remove it. A separation of the internal condyle of the humerus will frequently produce an ulnar palsy.

REDUCTION OF ANTERIOR DISLOCATION OF SHOULDER, ACCORDING TO RIEDEL.—(*Deutsch. Med. Wochen*, September 20, 1900). Graef reports a case in which after various methods had been tried and had failed to reduce dislocation, the reduction was accomplished with ease by method of Riedel. The patient was a young man, who had suffered with dislocation of shoulder several times, always reduced

with great difficulty. The luxation was anterior and, as usual, involved the left shoulder. Patient was chloroformed and Riedel's method was finally tried. The surgeon stood on right side of patient and seized the left arm above the wrist. A short, strong pull was made in the direction of the right side of the pelvis, and the head of the bone promptly slipped back into the glenoid cavity.

DISEASES OF THE UPPER RESPIRATORY TRACT AND EAR.

BY B. A. WADDINGTON, M. D., SALEM, N. J.

Since our last meeting there has not been a great deal added to the literature of the "Diseases of the Throat, Nose and Ear," as far as my own reading and experience has extended, and I shall simply read a short paper covering thirty-six years of experience as a general practitioner of medicine upon the subject named.

The inflammatory diseases of the upper respiratory tract and ear do not receive at the hands of the busy general practitioner the careful consideration which their gravity demands.

The crying babe receives the ordinary treatment and is passed over. It still keeps complaining, and we are at last informed that the little one's ear is running, and peace, as far as pain is concerned, is restored. Even then attention is lax. The child grows into years, either with a persistent discharge more or less offensive, or with recurrent earaches to be followed by a flow of pus. It is a matter of observation that the average dull child has not want of brain quality but is hampered by inability to quickly or clearly hear. So no difference how much gray matter it has, it lacks the power of perfect development. These are the cases, it is sad to say, we are told time will end. The upper respiratory tract, as a whole, is the primary cause. With anything abnormal in mouth, nose and pharynx, sequences must follow. The eruptive diseases of childhood are, of all, the most dreadful. If the upper respiratory tract is the factor, it behooves us all to give closer attention to the local medication. The involvement of the eustachian tube and extension into the middle ear is followed with the most dire results.

Take it as you will there must be a bacteriological reason for all these conditions, being modified by the violence. To illustrate, the

simple apthæ—the baby's sore mouth—while related to diphtheria, gives not the same toxic results. These are the conditions that are lost sight of as causes of the after-results in the upper respiratory tract of the child. The every day cold of the baby has apparantly no value. still the results keep increasing, and thus grow the changes that mark the after-state. In the babe there is much to say in the non-recognition of the pre-stage. We pay too little attention to the infants, a large proportion of which are subjects to middle ear diseases. Too often by lack of care in observation, the little one has had, or is passing through a mild form of the eruptive diseases. Ordinary exposure does not cause sufficient pharyngeal inflammation to give rise to these conditions. External impressions exert a much greater influence upon the young babe than upon the adult. Their position in nursing, in many cases, results in gravitation of the milk into the middle ear through the eustachian tube, thereby setting up an infectious middle ear disease. At this time it is well to take up a class of cases that are lighted up by conditions aggravated by exposure. Lower vitality and chronic tonsillar engorgement, causing, by continuity of the membrane, an affection of the tube. In the latter cases the existing conditions are always patent. Nasal defect is another factor—deformities with recurrent naso-pharyngeal inflammations increasing tissues already changed.

The repeated interferences with the breathing apparatus converts the child into a "mouth breather," consequently irritation increased by any exposure, is liable to excite an acute inflammation. In this class of cases, retained eustachian secretion may, under congestion, set up increased irritation.

I have seen a number of cases in both child and adult in which persistent uric acid diathesis reaching an excess, burst forth, setting the whole air space literally on fire. The tonsilar engorgement being the most marked in all of these cases there was more or less of the eustachian involvement.

While this class of cases needs care, how much more potent are the eruptive? It would be well for all to give closer attention to the local medication!

It is admitted, notwithstanding the most arduous work, that the prognosis is always grave, yet it is possible to modify the general after-defects. To be consistent it is our place, and the patient's right, that the nose, throat and ear should be persistently looked after.

As measels, scarlet fever and diphtheria belong to the same family, the results are the same, only modified by the severity of the cases. It is doubtful if any case, having either one of these to any extent, ever comes out with perfect safety. This is overlooked from the fact that hearing for ordinary purposes is still retained, the acuteness being lost. Scarlet fever may give rise to sloughing of the middle ear, also in some cases to uni –or bilaterial, facial paralysis, as one or both ears are affected. In small-pox the infection may be so severe in the pharyngeal space as to invade the middle ear and causing sufficient necrosis to throw off the osseous structures of the internal ear, including the labyrinth. This is truly a tremendous slough!

If in the eruptive diseases the child passes through with comparative safety, observation over a period will show, in many cases, an athrophic change in the nasal passages. Any bacteriological change sufficient to destroy tissue, may give rise to marked atrophic change to an extent of producing ozena in its mildest or its most severe form.

One of the sequences of typhoid fever is interference with the auditory nerve to such an extent as to make the prognosis grave. There is no doubt that much of the hebitude of typhoid cases is due to this fact. It is history that in at least 2 per cent. the middle ear is also involved. There is a question whether by continuity of structure the meninges may be involved. In these cases there is involvement of the bronchi-naso pharynx and eustachian tubes. While on this it is well to speak of its treatment. Not much can be done, technically, on account of the difficulty in placing the patient. The only thing to do in cases where the ear symptoms are marked, is the syringing of the ear with warm saturated boric acid solution.

Inflation by the Politzer bag has in it much danger, as nasal hemorrhage is often apt to follow. There is one condition that is worth bringing forward, and that is the sudden deaths in this fever, classed by some as heart failure.

This is a septic disease in which inhibition of the nervous system is marked. Then when the patient is placed in a sitting position, there is sudden paralysis of the abductor muscles of the larynx and the patient suffocates from the inability to take in air.

Glandular involvements in tubercular subjects frequently give rise to middle ear affections. This form of tuberculosis, like the pneumonia form, develops a slow, painless softening of the drum, which goes on week after week, or even for months, until the drum is completely destroyed.

Specific cases are classed justly under their own heading and so treated. The treatment of these cases is the anticipatory, if possible, and modification of the symptoms as they arise.

Recent Progress in Bacteriology.

BY D. H. BERGEY, M.D., FIRST ASSISTANT, LABORATORY OF HYGIENE, UNIV. OF PENNA., PHILA., PA.

There has been considerable progress in bacteriology during the past twelve months in all lines of research, and it is not my purpose to take up in detail the progress made in more than one or two special fields, that is, one line of studies in the field of pure bacteriology and several lines of research in applied bacteriology

Progress in pure bacteriology during the past year presents many advancements in our knowledge of the morphology, biology and biological characters of bacteria. These studies comprise observations upon the internal structure of bacteria especially with reference to the character and significance of the so-called polar granules of Ernst. These have been found in a large group of organisms and their biological significance has been studied in detail by Drs. Hugo Marx and Friedrich Woithe, of Berlin. (*Centralblatt f. Bacteriologie*, Bd., XXVII). These gentlemen have found that these polar granules are dependent upon the character of the nutrition of the cell, and they believe that the organisms in a culture containing these granules are the preservers of the species and are composed of a specialized form of protoplasm, which they designate germ protoplasm in contradistinction to the remainder of the protoplasm, which they designate nutritive protoplasm.

A considerable amount of work has also been performed with regard to the significance of so-called branching forms of bacilli, more especially of the tubercle and diphtheria bacilli (work of Dr. M. Gildersleeve). The consensus of opinion seems to tend in the direction that these are not true branching forms but merely sprouts given off from one or more of the polar granules of Ernst. This opinion, however, would also indicate that these granules represent a specialized form of protoplasm within a cell, though this specialization is not considered of the same character as the nuclei in cells of higher organzation. The contention by a number of bacteriologists that these

so-called branching forms of bacilli indicated that the species presenting these appearances were related to the mycelial forms of plants standing somewhat higher in the vegetable kingdom, seems to be refuted by the conclusions reached with reference to these studies and uphold the opinion that these organisms belong to the group of schizomycetes or fission fungi in which they had been classed since the early days of bacteriology.

These studies show the direction in which part of the research has tended in recent years. Other investigations in pure baceriology might be cited, but would undoubtedly prove less interesting and less instructive to the general practitioner than the studies in applied bacteriology which I shall next consider.

There has been a great deal of activity in the field of applied bacteriology in the past year as heretofore This is of course the most important phase of the work and is also the field in which the results will be better appreciated by the physician.

A great deal of work has been done with regard to the nature and mechanism of immunity, and in this field I desire to review briefly the important work performed by several able investigators.

In this field the work of Emmerich and Loew (*Zeitschr. f. Hygiene*, Bd. XXXVI) with regard to the immunizing substance contained in culture of pyocyaneus and other organisms, and the artificial preparation of antitoxic substances has elicited a great deal of interest. They had shown, in a previous contribution on this subject, that pathogenic bacteria are capable of producing proteolytic enzymes in the test-tube as well as in the animal body, and that these enzymes are capable of dissolving the protoplasm of the bacteria producing them. They demonstrated that the immunizing substances are of the nature of an enzyme, and that it was possible to prepare antitoxins artificially by the addition of blood serum, or organ fluids, to these enzymes in vitrio and then produce curative effects by inoculating these artificial antitoxins into animals. They have called these enzymes nucleases. They found that most nucleases are capable of dissolving only the protoplasm of those bacteria which produce them, but they found also that the nucleases of other organisms, for instance, the proteolytic enzyme, of the bacillus pyocyaneus, are capable of dissolving the protoplasm of other bacteria. The pyocyaneus proteolytic enzyme, when combined with blood serum or organ fluids—pyocynase-immun-proteid—is capable not only of dissolving the diphtheria bacillus in

human and animal bodies, but also of neutralizing the effect of the diphtheria toxin. They also found that it had a similar action upon anthrax, typhoid and plague.

They state that artificial immunity against infectious diseases rests upon the formation of conform nucleases in the organism, and the combination of the same with the body albumin under the influence of the alkalinity of the blood.

In their second report which appeared during the past year they have strengthened their previous statements and given a series of investigations with the bacillus of swine plague and show that it is possible to prepare, by artificial means, an antitoxin of great efficiency against this disease.

Another series of investigations which throw considerable light upon the question of immunity is that reported by Drs. Ehrlich and Morgenroth (*Berliner Klin. Wochenschr*, 1901), in which they considered in detail the nature of the substances which bring about hämolysis, that is, solution of the red blood corpuscles in the body. They had demonstrated in previous years, that by immunizing guinea pigs against defibrinated rabbit's blood a hämolytic substance was formed in the blood of the guinea pig, which, when mixed with normal rabbit's blood, rapidly dissolved the red blood corpuscles.

Several years ago Ehrlich promulgated a theory in explanation of the mechanism of immunity against infectious diseases, a theory which is based upon the assumption that immunity is produced through a specific reaction which takes place in the body as the result of the reaction of the bacterial poison upon the body cells. He places the production of immunity upon a chemical basis in that he shows that the immunizing substance is produced as the result of the union of the bacterial poisons with some of the constituents of certain body cells. This theory of immunity is known as Ehrlich's "side chain theory" because the toxins are believed to unite with the one or the other of the side chains of the complex chemical substances composing the body cells.

The process of the antibody production, as it proceeds according to the side chain theory, is a complex one and consists of a number of phases (combination, regeneration, casting off), which in part are independent of each other. A series of circumstances can arise, however, which may inhibit certain phases of the process. Through the anchoring of certain poisonous substances by the cell it may be so injured that antibody formation does not take place or only in very

small quantities because the regenerative power of the cell is affected. This will happen especially with highly toxic substances in case the receptors of these substances are attached to the cells of vital organs, as those of the central nervous system, as in the case of tetanus poison.

The recent work of Ehrlich and Morgenroth is mainly an elaboration and extension of this theory of the mechanism of immunity. They show that in the immunization of one species of animals against the blood of another species there is produced in the blood of the immunized animal a substance which is capable of dissolving the red blood corpuscles of the animal with whose blood it has been immunized. This solvent substance has been designated hämolysin. By this experiment they were able to demonstrate that the mechanism of immunization against the red blood corpuscles of a foreign species of animal is identical with that of immunization against bacterial poisons, and that the two processes follow analogous laws.

They find that there are two substances formed in immunity, the so-called immune body or receptor, and the complement, and through the combined action of these two substances the red blood corpuscles are dissolved. The solution of the blood corpuscles is brought about by the immune body, the immune body uniting with the corpuscles and the complement uniting with the immune body, the immune body serving as the connecting link between the corpuscles and the complement. This function of the immune body is demonstrated by the fact that the serum of our immune animal, when heated 56° C., loses the immune body and, in consequence, it is no longer capable of dissolving the red blood corpuscles. The bacteriolytic action of immune sera upon bacteria has been shown to be analogous to the hämolytic action of specific sera upon blood corpuscles. It has been found that the quantities of these two substances, namely receptor and complement, contained in the specific serum may vary to a considerable extent, in fact, the immune body may be present in great excess without increase of the complement content and that in cases of disease the complement can disappear; being rapidly disturbed or formed very slowly. The same is true for the immune body. Which of these two factors is brought in question can not be stated at present, and further investigation is necessary in order to obtain an insight into the important question as to the method of natural disposition to disease or its alteration, the increase of resistance or the loss of resistance.

As the result of their extensive investigations they conclude that is advisable to immunize different species of animals against the same poisons and then employ the mixed sera of these animals in the treatment of disease because the immune bodies formed in the blood of one animal differ from those produced in another animal, and, consequently, a mixed serum would be more likely to prove beneficial than one obtained from a single species, because the mixed complement, as well as those normally present in the human body, can then be brought into action.

Another series of investigations which are of the greatest importance are those of Drs. Max Neisser and Wechcberg (*Zeitscher f. Hygiene*, Bd. XXXVI) upon the poisonous products by uhe staphylococci. Contrary to the generally accepted opinion of bacteriologists these gentlemen have shown very definitely that the staphylococci produce a soluble toxine which is very closely allied in its constitution to that produced by the diphtheria and tetanus bacilli. They found that there were present in this toxin two distinct poisons, one having an affinity for the red blood corpuscles, producing hämolysis, and the other an affinity for leucocytes, and their body cells, producing degeneration and death of these cells. They found, moreover, that there was a variable quantity of staphylococcus antitoxin pre-existing in the blood of the human beings as well as in that of certain animals, and that it was possible by the injection of the filtered staphylococcus cultures, to increase the normal antitoxin content of rabbit's blood to a considerable degree. It seems, therefore, quite reasonable to expect that in the near future it will be possible to treat these troublesome forms of infection by the staphylococci by means of a specific anti-toxin.

Considerable work has been done in the past year upon the question as to the nature of the agglutinin reaction of immune sera and there is still much to be learned on this point.

It is now universally accepted that the Gruber-Widal reaction is of great diagnostic value in typhoid fever. The reaction, however, has certain limitations which must be borne in mind. The agglutinating power of the serum of non-typhoids is usually lower than that of true typhoids, being rarely present in dilutions of 1–50, though in certain anomalous conditions of the blood, as anæmia, pleurosis, leukemia and pseudo-leukemia, as well as in cases of icterus, there may be a reaction with dilutions so great as 1–50.

Durham (*Journal of Experimental Medicine*, Vol. V, 1901), assumes that there are a number of components (corresponding to Ehrlich's receptors) in the body substances of the bacteria which are capable of dissolving a corresponding number of agglutinins, so that each agglutinin acts upon a particular kind of bacteria; in this respect showing an analogy to the multiplicity of immune bodies which Ehrlich and Morgenroth have assumed to exist in the blood of immune animals. This assumption takes for granted the presence of a number of single agglutinins and explains satisfactorily the variable degree of action of the typhoid agglutinin upon different cultures of the typhoid bacillus and the action of the agglutinin of specific sera upon different kinds of bacteria.

Loew (*Centralblatt f. Bacteriologie*, Bd. XXIX) states that the "true" agglutination brought about by immune sera rests upon the fact that the surface of the bacteria becomes glutinous through a slow action of the proteolytic enzymes produced by the bacteria themselves, and that the same reaction always takes place in cultures. In the immune serum this bacteriolytic enzyme is combined with animal albumin bodies, and hence it is weaker in its action upon the bacteria than when formed in cultures, and, in consequence, its bacteriolytic action is also weakened.

Another series of investigations which have been of a practical nature rather than experimental are those with regard to the immunization of the English soldiers and army nurses against typhoid fever by the inoculation of dead typhoid cultures. It has been the experience of the English Army surgeons in South Africa that where heretofore the nurses in the army hospitals frequently contracted typhoid fever from patients, that since the introduction of this mode of protection the danger of infection to the nurse has been practically eliminated. There are no statistics at hand so far as I know to show the extent to which this mode of immunization has been of service in the general soldier but the experience with nurses seems to warrant the expectation that this mode of protection is of great value.

There have been numerous other advances in applied bacteriology during the past year, many of which are of great importance, but it would lead us too far into the discussion of details in order to make these advances comprehensible to the general practitioner. The advances which have been of signal importance are those made in the application of bacteriology to the detection and prevention of disease; the extension of our knowledge of the bacteriological analysis of water, of sewage, and of canned foods.

REPORT OF THE PROGRESS OF OPHTHALMOLOGY AND OTOLOGY.

BY J. WILLIAM ATKINSON, M. D., PATERSON, N. J.

In presenting this report to the Society on the progress made during the year in diseases of the eye and ear, it is the writer's aim to bring to your attention the fact that the great number of physicians engaged in this branch of medicine and surgery are especially active and energetic in advancing and perfecting this specialty, as a result, new therapeutic measures and operative procedures have been proposed and carried out, while modifications of the older methods have been instituted to meet and keep pace with our ever-increasing knowledge of the pathology of diseases affecting these regions.

As the literature on this subject is very voluminous it would be manifestly impossible for the writer in the limit of this short paper to more than mention a few of the observations and conclusions made by the workers in this field, yet, I hope that the observations I here offer for your consideration may contain food for thought and investigation.

CONTRIBUTION TO THE THERAPY OF DETACHED RETINA.

Starkle reports 23 successive cases of detachment of the retina, (from the Clinic of Prof. Mellinger) (Basil) from 1894–1900, that were treated with sub. conjunctival injections of Na. Cl. in 2%, 4% and 10% solutions. From his observations the author reaches the following conclusions:

The injections of Na. Cl. are harmless, painless, and foster materially the resorption of pathological products in the eye in proportion to the concentration; in detachment of the retina, they act beneficially for some time. In three cases a lasting re-apposition of the retina was observed with improvement in V. and V. F. Their effects are best in recent partial detachments, least in old and total detachments, all intermediate forms show different results according to age and extent.

ARGENTAMIN IN OPHTHALMOLOGY.

Dr. F. Daxenberger, (*Wochenshcrift f. Therapie and Hygiene Auges*, IV, No. 1), used Argentamin for the last three years with universally favorable results, in all kinds of conjunctivitis with considerable swelling and secretion, brushing a five to ten per cent. solution over the everted lids; for after-treatment it may be instilled in 3% solution.

Daxenberger found it especially valuable in blennorrhœa neanatorum, for which he considers it a specific; two cases are reported. He also prefers it in 3% solution as a prophylactic to Creede's method. Argentamin surpasses nitrate of silver on account of its bacteriacidal action into the depth of the tissues with less irritation. Argentamin is a combination of silver nitrate with Aethylen diamin.

On the action of suprarenal extract, Zimmermann, Stuttgart, (*La Clinique Opthal*, October 10, 1900), states that fresh solution of the dried suprarenal gland may be introduced into the conjunctival cul de sac without producing any irritation. He has found that the conjunctival vessels contract and disappear from view first, but if the action of the material be continued sufficiently long the scleral vessels will do the same. This renders the drug of considerable service in inflammatory and congestive disturbances of the ocular structures. He has found that probably one of the most marked therapeutic actions of this drug is to quiet certain intractable cases of glaucoma, particularly if it be used in connection with a weak solution of one of the old miotics, Davier's formula, which contains three centigrammes of chlorohydrat of pilocarpin, and two centigrammes of salicylate of eserine to ten grammes of an equal part solution of dried suprarenal glands in water, have given him the best results.

THE TREATMENT OP TABETIC ATROPHY OF OPTIC NERVE.

Demicheri, Montvideo (*La Clinic Opthal*, October 25, 1900), reports the results obtained by him from the use of mercury in the treatment of Tabes, are in line with those of DeWecker, and lead him to the conclusion that the use of this drug is dangerous in such cases. Recently he has been employing nitrate of sodium with fairly encouraging results as far as the ocular symptoms are concerned. In all the cases that he reports there was an improvement in vision and an increase in the visual field, five days a week he injected one gramme of a 6% solution of the drug subcutaneously, and every other day he injected five or ten drops of the same solution beneath the conjunctiva; in the one case the sub-conjunctival injections were alone used, the results being as good as that obtained by the combined method. As a rule he said, the patient notices the improvement in his condition after five or six injections have been administered, the maximum result being obtained at about the end of two months' time.

OCULAR TUBERCULOSIS AND ITS TREATMENT.

Galezowski, Paris (*Recueil d'Opthalmologie*, November, 1900), in a brief article on ocular tuberculosis and its treatment, mentions the following forms under which this disease has come under his notice: engorgement of the lacrymal gland, tuberculosis of the iris, tubercular choroiditis and optic perineuritis. He classes the cases reported as tubercular conjunctivitis as being doubtful, tuberculosis of the iris he considers may be confounded with gummata, but the fact that they are small and scattered over the organ will usually serve to differentiate them from the larger, generally simple syphilitic manifestations, even when the latter are unaccompanied with keratitis and cloudy vitreous humor, nevertheless, he says the surgeon should search for tubercular foci in other portions of the body in order to make his diagnosis certain. Tubercular choroiditis he believes to be a more common affection than is generally supposed. He had seen one or two cases every year.

Tubercular peri neuritis may be provoked by tubercles of the brain, or a tubercular meningitis. It resembles closely the optic neuritis accompanying other brain tumors and other forms of meningitis, except that it appears as a diffused incomplete perineuritis which develops slowly. Treatment, he says, should be constitutional, while operative measures should be postponed as long as possible.

IREDECTOMY AND SYMPATHECTOMY IN GLAUCOMA.

Abadie, Paris (*Archives d'Opthal*, November, 1900), in glaucoma, defines the class of cases suitable for iredectomy and those that demand sympathectomy, unfortunately, he says the latter operation has received an unjust amount of condemnation on account of the failure to some operators to obtain the desired results, and is due chiefly to the failure to select cases which are suitable for the operation. He says that in acute and the sub-acute forms with corneal troubles, and in types with intermittent crisis and clouding of the visual field with colored circles around flames, though with complete remission between the crisis, an iredectomy should be first performed, and only in case of this failing should sympathectomy be resorted to.

He believes in chronic simple glucoma, we should commence by the regular employment of miotics twice a day, and if this be sufficient we should rest content. If in spite of the regulated use of these drugs vision continues to diminish we should practice ablation of the superior servical sympathetic ganglion.

DIPHTHERITIC CONJUNCTIVITIS.

Mathien (*Annals d'Oculistique*, November, 1900), reports a case of typical diphtheritic conjunctivitis occuring in a child who suffered from facial impetigo; from a study of the case he deduces the following lessons: 1—In treating a child suffering from an eruption on the face it is the duty of the physician to pay close attention to the eyes and to protect them by all the means at his disposal. 2—The appearances of an ordinary degree of hyperemia of the conjunctiva should be considered as demanding an immediate bacteriological examination of the conjunctiva 3—If cultures should show any noteworthy number of colonies of the bacillus of Loeffler, or if inoculations are positive, antitoxine should be injected into the membrane, or even instilled upon it. 4—To fight the pyogenic organisms which threaten the cornea, free conjunctival irrigations, and disinfection of the edges of the eyelids should be resorted to. 5—When a bacteriologic examination is out of the question, the best sign of a grave condition is the presence of an adherent exudate on the tarsal conjunctiva; in such cases, whether the pharynx be attacked or not, antitoxine should be employed locally. 6—Under similar circumstances, should the pharynx be invaded during an apparently catarrhal or croupous conjunctivitis, the same care should be given to the eyes as in cases which are known to be diphtheritic in character.

EYE DISEASES IN CONNECTION WITH NASAL AFFECTIONS.

Dr. Struyken Holland says the opthalmologist should be able to treat the most common nasal diseases. Conjunctivitis and keratitis phlyctenulosa are mostly associated with adenoids or an enlarged pharyngeal tonsil with a consequent hypertrophic rhinitis, not only the adenoids which obstruct the respiration are of importance, but, still more, we have to look for the smaller multiple much-secreting growths. Conjunctivitis, chronica and follocularis and different forms of blepharitis, are very often associated with the same growths or with enlargements of the lower and middle turbinates. The best treatment is operative interference. Spurs of the septum often cause asthenopia, and removal should be practiced.

Epiphoria is often caused by nasal affections; generally, we know that affections of the different sinuses cause eye disease.

Dr. R. Bylsma (*Weekblad V. Geneesk*, June 23, 1900), reports a case of glaucoma beginning with tinnitis aurum. The attacks occurred at night with very great noises in right ear, which make it impossible for patient to sleep, with visual disturbances consisting of a colored halo around lamps; vision reduced in both eyes, mostly in left. Ophthalmoscope revealed glaucoma in both eyes.

James Hinshelwood, Glasgow (*Ophthalmic Review*, November, 1900), reports that in his experience holocain, in 10 per cent. sol., is very much safer to use in acute glaucoma for the relief of pain, where, for any reason, it is advisable to postpone operation. It also increases the rapidity of action of eserine, there being no risk of further increasing the tension and its anæsthetic effects are decidedly greater than cocaine.

J. A. Lippincott, Pittsburg (*Trans. Am. Ophth. Soc.* for 1900), in an article on the advantages of strong, portable or easily movable magnets in eye surgery, mentions the frequently insufficient traction power of the electro-magnets of Hirschberg and Bradford and the permanent magnet of Gruening as a disadvantage, and that the usefulness of the Haab magnet is handicapped by its weight and immobility. Dr. L. has had a magnet constructed 12 in. long and 2 in. in diameter, weighing 9 pounds. This, he claims, is easily manipulated when suspended from the ceiling by a wire which passes over two pulleys and having a counter-weight attached.. With this magnet he has lifted a mass of iron weighing 51 pounds. This magnet, while having the necessary traction power, has this disadvantage that the patient must necessarily be brought to the magnet.

Dr. W. B. Johnson, Paterson (*in Archives Ophth. Vol. XXVIII*), describes an electro-magnet which he has had constructed. This magnet overcomes all the disadvantages of previous ones, its weight being only about 2 pounds, and it has traction strength of 6 pounds. It can be used in any place where a direct incandescent electric light current can be fouud.

Dr. Takamine, of the Scientific Staff of P. D. & Co., has isolated the blood-pressure-raising principle of the suprarenal gland; this product is in the form of a white crystalline substance, sparingly soluble in water. To this product the name of Adrenalin has been given. It forms salts with various acids. One drop of a 1 to 10,000 sol. of adrenalin chlor. introduced into the eye will blanch the conjunctiva in 30 seconds. Drs. Bates, of New York; Wurdeman, Milwaukee; Wil-

son, Elizabeth, N. J., and Mayer, of New York, have made extensive trial of this new addition to our therapy. It has been used in operations on the conjunctiva, glaucoma, squint operations and other operations about the eye and in the nose, and by its use the operations have been made practically bloodless. In inflammations of the conjunctiva and nasal mucous membrane its action after the use of cocaine is extremely favorable, reducing congestion, thereby favoring the subsidence of the inflammation. Its use before using cocaine, holocain, eucain, etc., increases the anæsthetic effects of the latter drugs.

Dr. Park, of Chicago, reports ten operations about the head and face, among which was an enucleation of the eye, done under the anæsthesia produced by the subachrinoid spinal injections of cocaine. The usual technique was employed, excepting the needle was entered in an upward direction and the cocaine quickly injected.

Dr. Wagner, of San Francisco, at the annual meeting of the Am. Laryngol Rhinol and Otol. Soc., 1901, reported the fact that carcinoma was infectious. This observation was based upon a series of investigations, carried out at the Pathological Laboratory in San Francisco by a physician who himself had been infected with carcinoma of the tonsil. Dr. Wagner exhibited a number of drawings and charts showing the progress of the disease in the investigations. These investigations are in line with a series of similar investigations that are being carried out at Buffalo at the present time.

EAR.

Gustave Zimmermann (*Arch. of Otology*, Oct.), asserts that the idea that the ossicles transmit the sound waves from the drum membrane to the internal ear is erroneous. He believes that all vibrations of sound pass indiscriminately through the membrana-tympani to the air of the middle ear and the bone of the cochlear capsule, and from there betake themselves directly to the labyrinth capsule without any conduction through the chain of ossicles.

Emil Amberg (*Phys. and Surgeons, Ann Harbor*, Nov., '99), agrees with Trautman, of Berlin, who says that displacement of the lateral sinus is due to, and indicated by, a symmetry of the skull. Most skulls, as a rule, are smaller in the right side than the left; on the smaller side the lateral sinus is displaced forward.

G. Liaras (*Rèv. Hebdon de Laryngol* Feb, 3, 10, 17, 1900), reviews

the literature of lupus of the ear. Lupus of the auricles he finds very rare. Of the 286 cases of lupus of the face, in less than 2 per cent. was the auricle attacked. When the meatus is affected, the infection spreads from the auricle, never from the middle ear. When lupus attacks the middle ear, it is usually secondary to lupus of the naso-pharynx.

M. Lermoyse (*Presse Med., Paris*, Nov. 10, 1900), says that it is the unskillful efforts to remove foreign bodies from the ear that does harm, rather than the foreign body itself; under ordinary circumstances the syringe is the best means to remove foreign bodies. When it is necessary to use instruments in the canal, it is better and safer to give the patient an anæsthetic than to take any chances on injuring the ear by the patient's inability or unwillingness to hold still.

R. Fullerton (*Glasgow Hosp. Reports*) finds two varieties of otitis media. In the first place, the whole tympanic cavity seems to be affected, the membrane is red and bulging, while all the landmarks except the short process disappear. In the second, the inflammation seems to be limited to the upper portion of the tympanic cavity. The membrane flaccida bulges and the inflammation extends upward to the segment of Rivini. In the first class he does not perforate except when the membrane is very thick and the patient is suffering severe pain. When left alone the results are as good as when the membrane is perforated.

In the second class early paracentensis is demanded. If left alone the autrum and mastoid are likely to become involved, or the case may end in chronic suppuration with caries of the attic and ossicles.

E. H. Pomeroy (*Boston Medical and Surgical Journal*, January 8, 1900), in otitis media in infants, emphasizes the importance of thorough examination by inspection, and calls special attention to his observation that the membrane may have a perfectly normal appearance and still the middle ear contain pus and be the source of a toxemia, endangering the patient's life. Paracentesis in the lower posterior quadrant is free from danger and gives relief. It should be done under general anæsthesia after cleaning the canal with bi-chloride.

Dundas Graut (*Jour. Laryngol, Otol. & Rhinol.*, Lon., Oct., 1900), in writing on the diagnosis and treatment of otitic pyemia, says, when in the course of acute or chronic suppuration of the middle ear, the patient is attacked with rigors and the temperature undergoes oscillations between elevation and depression, it is safe to assume that we

have to deal with otitic pyemia in one of its forms. Less frequently, a continuous high temperature, persisting in spite of free exit of the discharge, and accompanied by rapid and intense lowering of the vital powers, indicates that a more purely septicemic process is in progress.

The casual relation of the ear disease to the constitutional disturbance is apt to be overlooked by the physician, especially if he is not accustomed to examine the ear.

R. Sattler (*Jour. Am. Med. Ass'n*, Feb. 10, 1900), reports a case otitis media, mastoditis and extradural abscess in which the inflammation was caused by the removal of a hypertrophied turbinate.

A. Lucas Berlin (*Laryngoscope*, St. Louis, Sept., 1900) reports favorable results from the use of the pressure probe in chronic non-suppurative otitis media. The best results have been obtained in the more recent cases, and the greater the improvement following the first treatment the more favorable the prognosis.

C. H. Burnett (*Laryngoscope*, July) treats ear vertigo by the removal of the incus. He reports entire relief following the operation in twenty-seven cases.

E. B. Gleason (*Laryngoscope*, March, 1900) reports four cases of chronic ottorrhœa cured by the use of a five per cent. solution of protargol injected as high up as possible into the attic by means of a Blake canula.

W. C. Phillips (*Annuals Otol. Rhinol & Laryngol*, Aug., 1900) makes a further report on the use of pure carbolic acid in the treatment of chronic suppurative otitis media, and in cases of burrowing pus and the formation of a sac, he leaves the acid in contact with the tissue from thirty to sixty seconds before applying alcohol as an antidote.

Paul Range (*Occidental Med. Times*, Jan. 10, 1900) states that the indications for surgical intervention in chronic ottorrhœa are: 1. When no improvement is obtained by antiseptic treatment. 2. When the probe reveals the presence of osseous lesions. 3. When cholesteatoma is detected or suspected. 4. When hearing is completely lost. 5 When there is the slightest symptoms of encephalic complication.

Politzer (*Jour. Laryngol. Rhinolog. & Otol.*, London, Feb., 1900) reports a case of the accidental extraction of the stapes during operation for necrosis of the temporal bone in a child two and one-half years old. This case, which Politzer believes is the first in which the

labyrinth was examined histologically after the extraction of the stapes, is of value in that it shows the danger of the inflammation extending to the internal ear when the stapes is removed during a suppurative otitis media.

A. A. Gray (*Lancet*, Lond., April 21, 1900) reports good results from the use of equal parts of alcohol and anilin oil in the removal of cholesteatoma. This combination softens the masses, and aids in breaking them down, probably by its great power of dissolving fats and oils.

M. A. Goldstein (*Laryngoscope*, July) reports a case of primary tuberculosis of the ear in a lady 32 years old.

J. F. McKernon (*Laryngoscope*. Nov., 1900) has tested the comparative value of heat and cold in the abortive treatment of mastoiditis in twenty-four cases. From his observations, it is his opinion that cold is more effective than heat, but that it is liable to mask the symptoms.

Henice (*Berlin Clin. Woch.*, Sept.) finds mastoid suppuration in elderly people especially dangerous because of the unusually thickened condition of the mastoid cortex and the consequent tendency toward the deeper extension of the disease.

H. Knapp, N. Y. (*Laryngoscope*, July) reports a case of extensive caries of the mastoid and petrous portion of the temporal bone. A successful operation was performed and perfect hearing restored. The integrity of the tympanic cavity and external auditory canal was preserved.

M. Mahn (*Jour. Laryngol, Rhinol. & Otol.*, Lond., May, 1900) reports a case of facial paralysis which occurred some hours after an operation for mastoiditis subsequently the patient was killed by a fall, and a post-mortem examination revealed a nerve which presented neither solution or continuity nor apparent wound. This proves that facial paralysis following the mastoid operation is not always due to injury of nerve, but is the result of neuritis.

W. A. Martin, San Francisco (*Laryngoscope*, Feb., 1900) reports a case of spontaneous exfoliation of the upper and posterior wall of the external auditory canal, leaving the middle-ear attic and mastoid antrum merged into one large cavity—a Stacke operation performed by nature.

H. Knapp (*Archiv. Otol.*, Feb., 1900) reports a case of fatal brain abscess presenting, previous to operation, pronounced optical amnesic

aphasia. When shown an article and asked to name it she would say, "I know what it is, but cannot name it." When told the name she would correctly repeat it. A post-mortem examination of the brain showed an abscess occupying the middle of the tempero-sphenoidal lobe.

Hessler (*Archiv. f. Ohrenkrank*, Vol. 48, Nos. 1 and 2) reports nineteen cases of brain tumor associated with suppurative otitis media.

G. Bacon (*Laryngoscope*, July, 1900) reports a case of chronic purulent otitis media followed by an abscess in the tempero-sphenoidal lobe, and also an abscess in the cerebellum, with fatal termination.

James F. McKenon, N. Y. (*Laryngoscope*, May and Jan., 1900) reports seven cases of sinus thrombosis depending on purulent otitis media. Each case was operated on. There were six recoveries and one death. In three cases there were epidural abscesses. In one, a double Bezolds perforation had occurred. In two, there were double ligation and resection of the jugular.

PRESIDENT'S ADDRESS.*

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PART I. SOME POINTS OF LAW AFFECTING MEDICO-LEGAL EXPERTS.

The science of medicine when applied to the elucidation of legal propositions becomes, so to speak, blended with the law and constitutes that branch of medical science known as medico-legal medicine. Taylor has defined the term as "that science which teaches the application of every branch of medical knowledge to the purposes of the law." The relations of the law to medicine are so intimate and close that the former covers every branch of the latter. Not only are the various branches of medical science included within the scope of medico-legal medicine, but those sciences which commonly are accepted as being collateral are included as well. It will be evident, then, that he who aspires to be an expert in medico-legal medicine must be a man of great erudition, learned in the law, medicine and the collateral sciences. But this great erudition alone will not fit him to excel in medical jurisprudence, other qualifications are necessary, physical and psychical as well as distinctly intellectual; such qualifications are the physical perfection of the special senses to receive normally sensory impressions, and intellectual competency to appreciate and understand their significance, keen perception, well balanced judgment, determined will, perfectly controlled emotions, retentive memory and logical mental conception.

Theoretical knowledge, while indispensable, will not alone outfit the medico-legal expert. This essential must be supplemented by a large and broad practical experience in medical science.

To thoroughly prepare and equip a man to discharge in a competent manner the various functions of a medico-legal expert will require years of study, thought, observation ond experience.

No specialty within the domain of medical science demands from its professor so broad and universal knowledge. The medico-legal expert

*The Medico-Legal Expert.

must, indeed, make himself a master of his profession, perfectly equipped and prepared, for the complexities and difficulties of the situations with which he must deal are very great and will tax his mental powers to the utmost.

The late Justice Folger aptly describes an expert as "One instructed by experience, and to become one requires a course of previous habit and practice, or of study, so as to be familiar with the subject."

Justice Redfield in Greenleaf's Evidence says: "The term expert seems to imply both superior knowledge and practical experience in art or profession."

The employment of experts in courts of law is of ancient custom, and many instances are recorded in particular history where medical experts were called on to testify in court, at the trial of cases involving medico-legal questions. Under the Roman law expert testimony in court was employed, *artis periti* were available at the discretion of the Judge.

In 1532, under the reign of Charles V. of the German Empire, the criminal code provided for the admission of medical expert testimony. In 1606, Henry IV. of France commanded by royal edict that his chief court physician should select in the various cities of the kingdom, qualified physicians who should, when called upon by the magistrates, give testimony as medical experts.

In England the custom of employing medical experts is a very old one, and since the middle of the 16th century has prevailed as an accepted practice in the law courts.

It may be said that in all civilized nations, within the limit time of modern civilization, either by statutory enactment, royal decree, or legal precedent, competent physicians of experience have been admitted to courts to give testimony on questions which were within the limits of their profession and to express opinions thereon as experts. A distinction must be made between evidence resting upon mere opinion and evidence resting upon conclusions formed by a mind cultivated by study and experience.

Ordinary opinion evidence is apt to be empirical and largely based on either prejudice or impulse; while expert evidence is the logical deduction of a competent special intellectual process

The rule of courts admitting the testimony of experts is exceptional. Opinions of ordinary witnesses are generally inadmissable in evidence, facts only are allowable as foundations for evidence given by such

witnesses, but an expert witness may state his opinion based upon a knowledge of the facts of a case, or upon a hypothetical question containing the facts deduced from evidence given in the case.

A contingency may arise in the trial of a question at law where an accurate conclusion cannot be drawn from the facts involved. In such a case the opinion of a non-expert witness may be allowed since such an opinion is essential to the proper comprehension of the evidence.

Opinions expressed by a non-expert witness may be received as evidence provided the witness is proved by the Court to be competent to express an opinion. Under such a circumstance a medical witness who makes no claim to be expert may express an opinion. But to do so he must first state the facts according to his personal knowledge, and then may declare his opinion based on those facts alone. The necessities of a legal situation may warrant the Court in allowing an opinion from a non-expert witness founded on facts observed by him and which cannot be so described as to draw therefrom an intelligent conclusion. Opinions cannot be received in questions which jurymen are presumably competent to comprehend and decide from facts drawn out by testimony. Ordinarily the question of what is the immediate cause of an injury does not require the opinion of a medical expert to decide, the circumstance of fact-incident will determine it.

In the trial of a question at law where the evidence evolves subject matter which cannot be properly comprehended by ordinary persons, in medical or other sciences, art or trade, as may be, but which would require previous special study, investigation, observation or experience to the purpose that a competent knowledge might be acquired of it, and where a common knowledge such as ordinary persons may possess is inadequate to comprehension, there the opinions of expert witnesses are not only admissable but necessary to the proper understanding of the question at issue. Expert medical witnesses cannot be required to give opinions which involve the degrees of disabilities in injuries which ordinary minds may readily perceive and understand from testimony; neither may such experts be questioned on abstract scientific propositions in medicine which the facts of the case fail to disclose. Speculative data in a case cannot warrant the admission of expert testimony.

Superior and technical knowledge of a subject under judicial consideration is necessary to admit the opinions of an expert, and such

knowledge must be imparted by especially skilled, experienced and learned men in particular professions and occupations. Questions of morals and ethics cannot admit of expert opinion.

Before an expert may be permitted to give testimony, it must be decided that the subject under consideration is one which requires expert testimony for the jury to properly understand and without which it could not arrive at a just and intelligent conclusion. If this question shall be decided affirmatively, by the Court, then the expert may be challenged as to his qualifications to give expert evidence, and he must prove to the satisfaction of the Court that he has the required qualifications in that he is possessed of superior knowledge, skill and experience in the special subjects upon which he will be called upon to give expert testimony. The competency of expert witnesses is a question to be determined by the Court at its discretion, and cannot be referred to the jury. The medical expert will be required to state what he has done to qualify himself as a competent professor of medical science. His single opinion and statement that he considers himself qualified by study and experience to give expert opinions on matters relative to his profession will not be accepted as conclusive proof of his competency. He must inform the Court of the opportunities he has had to acquire general and special medical knowledge and experience. The possession of a diploma from a recognized medical college, or a license to practice medicine from a legalized authority is prima facie evidence in law of a right to give an expert opinion in questions pertaining to medical science. These are the qualifications generally accepted by courts at a preliminary examination to prove the presumable capability of a medical expert.

The examination, subsequently, of counsel on direct, but more particularly on cross inquisition, will, if properly conducted, more surely demonstrate the competency of the expert, or show his claim, notwithstanding his opportunities, to be worthless and spurious. If in the opinion of opposing counsel the medical witness fails to give satisfactory evidence of his qualifications and ability as an expert, he is objected to on that specific ground. Experience counts for much in the proving of experts, the greater the opportunities for experience, the greater the presumption of competency. It is not an essential requirement in law that an expert medical witness shall be in the actual practice of his profession at the time he gives evidence; it will suffice that he has previously been engaged therein to an extent to make him competent.

While it is essential to a proper comprehension of a medico-legal question by the Court and jury that the capability of a medical expert giving evidence therein as to adequate knowledge and experience in the science of medicine should be thoroughly demonstrated, it is not required that he be pre-eminent in his profession or special application of it, nor is it necessary that he should be possessed of the highest degree of skill to qualify as an expert. It is within the power of the Court to decide whether or not the qualifications and ability of the expert witness are such that his opinions are of value, and he may so charge the jury, reciting therefor his reasons. If the testimony of a witness who testifies as an expert is objected to by opposing counsel, the objection must rest upon the specific ground that the expert has failed to prove by his testimony that he has proper foundation to be accepted as an expert.

Experts may testify, first, generally as to the facts having direct relation to the question at issue and declare opinions based on those facts as the result of study of authorities and personal experience; or, second, as to the facts testified to by other witnesses, in which case the testimony must have been heard, or reliable knowledge had of it, such as that afforded by the authorized stenographic notes of the court record. The examination of experts must be limited to questions bearing strictly upon the matter in controversy and to that part of it which pertains to the special profession of the expert. Conclusions concerning facts evolved in testimony are without his sphere.

Hypothetical questions based upon the facts in evidence or supposititious statements pertinent to the question at issue are frequently used in courts of law to obtain expert opinions.

Conditional questions may be based upon ex-parte testimony which may not be a correct statement of the actual facts in the case. Interpolation is also allowable. The conjunction "if" inferentiates assumption, and the hypothetical question always begins with "if." Both sides to a legal controversy assume the truth of facts which each one produces by ex parte testimony. Error of assumption will not cause to be ruled out a hypothetical question.

The effort always is to obtain from the expert an opinion which would establish the facts included in the hypothetical question. Facts in a hypothetical question must first have been a part of the testimony of the case, but such a question may be predicated upon certain facts alleged by counsel to exist although not proven by testimony, but he

must inform the Court that it is his purpose to produce later testimony that will prove those alleged facts. If he fails to do this, then the Court may direct both question and answer to be struck off the record of the court.

The jury must always have knowledge of the exact facts testified to upon which the opinions of the expert are based.

To the jury belongs the right of discrimination of testimony, that is, to decide disputed facts. An expert opinion must always rest upon the facts in a case, never upon opinions. In cross-examination no restriction as to the facts is demanded; irrelevant and collateral matters may be introduced in a hypothetical question to test the competency of an expert.

In the majority of states it is not required by law that a medical expert, in order to give expert testimony, shall be a graduate of a regular medical school or duly licensed by a state board of medical examiners. It will suffice if he is proven to be a practicing physician of experience. The law also fails to discriminate between the various so-called "schools" or "systems" of medicine. All are recognized as being on an equal footing. Medicine being a speculative science, the law cannot judge of the claims of the respective systems or accept one particular school to the exclusion of the others.

A general practitioner of medicine may testify as an expert in any branch of medical science, but a specialist, if he claims that distinction, may only testify on subjects in touch with his specialty.

It is not essential to testify as a medico-legal expert to have had personal experience upon the matters at issue. If the expert claims that his knowledge is based only upon a study of the authorities his testimony is admissible. He adopts the opinions of others as his own, of the truth of which he is convinced.

This, however, is not the universal law; in some jurisdictions, especially in criminal questions, the medical expert must be practically familiar and experienced with the subject upon which he gives opinions. It is not necessary that a person, to express an expert opinion on subjects which may be denominated branches of medical science, shall be a physician; chemistry, toxicology, bacteriology and hygiene are all included in the science of medicine, yet persons familiar with these sciences, or any one of them alone, are legally qualified to give expert testimony in questions where they are in evidence. A midwife is competent to testify, to the extent of her personal experience, in obstetrical questions.

Under the common law, which still applies in New Jersey, a physician is not exempt from testifying to facts communicated to him as confidential medical adviser, a knowledge of which facts was necessary to enable him to prescribe properly and intelligently. But generally this rule of the common law has been amended, and in most states laws have been enacted protecting physicians in their privileged communications with patients, provided that to successfully prescribe for and treat the patient it was necessary to acquire certain information, and all information so obtained, must have been strictly in a professional capacity. If information is obtained which is not necessary for treatment, the physician may be obliged to disclose it by the Court. Not only does this medical privilege hold good in information acquired by statements of the patient, but it is also recognized as valid even in objective conditions, where knowledge is acquired by the special senses of the physician, without statements from the patient, provided such observations are necessary to properly treat the patient. A patient may consent to release his physician from this privilege of professional confidence. Again, where a patient may be an incompetent witness, mentally unsound, and the question is one of testamentary capacity, the legal representative of the patient consenting to waive any special privilege, the physician may testify.

Statements concerning a controversy made to an expert by persons not under oath cannot be accepted as a basis for opinion by that expert.

A consulting physician cannot found his expert opinion upon the declarations of the previous symptoms by attending physicians or nurses unless such declarations are made in court under oath. He must base his opinion upon what he discovers in the case upon personal examination or upon facts revealed in court upon sworn testimony.

He may answer a hypothetical question, giving his expert opinion thereon, provided the facts in evidence are contained therein. Subjective symtomatology, under certain circumstances, may be a valid legal basis upon which a medical expert may found his opinion. Objective symtomatology may be wholly absent and the statements of the patient may be the only means by which a comprehension of the question at issue may be reached.

Opinions may be given by medical experts as to the cause of death, founded upon facts testified to, or upon statements made by witnesses concerning symptoms of disease or injury which preceded death.

Evidence of the cause of death proven through a post-mortem examination of a body is competent testimony.

All facts which include the nature, cause, treatment, duration, severity, probability of recurrence, systemic effects, contagiousness, infectiousness, hereditary predisposition, whether the disability will be temporary or permanent, pain or suffering, etc., may be testified to by medical experts.

Important facts in reference to wounds, whether or not a wound was inflicted before or after death, by what means inflicted, the degree of force or power involved in production, may also be testified to. Bullet wounds are either penetrating or perforating. If the former, one wound, that of entrance, is to be seen; if the latter, two wounds, those of entrance and exit. The wound of entrance is the most important medico-legally. The physical appearance of this wound and the adjacent tissues ought to be carefully inspected, preferably with a strong magnifying glass, to determine the probable direction from whence the bullet which caused the wound came. Abrasions, brush marks, powder specks, burns, etc., in the vicinity of the wound, must be carefully noted and their exact location in relation to the wound determined. The angle of penetration must also be fixed after probing to locate the bullet track. If healed, the scar of the wound and its environments should be carefully inspected. These precautions are advised to be taken because thereby the direction from whence the bullet came and the distance between the muzzle of the fire-arm and the site of the bullet contact, may be fixed with more or less accuracy and may also have an important influence upon any testimony concerning the circumstances involved in the production of the wound. Where a medical expert has proven competent knowledge of medicine and surgery, but has had no practical experience in one especial example of disease or injury, his testimony, based upon theoretical knowledge of that particular example, will be competent, as it will also be, as has been already stated, where he has made no personal examination but bases his opinion upon the testimony of witnesses who had made examinations. In explanation of testimony to a jury, a medical expert may make use of plates, diagrams, models, skeletons, medicines, instruments, pathological or physiological specimens and apparatus of all kinds. In explanation of the effects of poisons on the human body,

he may make tests and chemical experiments in court. He may also testify from sight, touch, taste and smell as to the physical properties of drugs given to him for his opinion in court.

When a medical expert gives testimony in a case of murder by poison, he must observe certain safeguards as regards the identity of the organs examined and he must establish that identity before he is allowed to give testimony, or before his testimony is concluded. He must also take all precautions in his methods of research so as to guard against a failure to discover the presence of a particular poison by faulty procedure. The usual order of examination is first to test for volatile poisons, second, for vegetable poisons, and third for mineral and caustic poisons. If this order is not adhered to, tests for one group may destroy the evidence of the presence of another group. The microscopist in the examination of blood will be called upon in court to testify whether the blood is human, or that of animals or birds: Much depends upon the condition of the blood, whether dried or fresh. Taylor calls attention to the impossibility of normal redevelopment of dried blood cells in artificial liquid and declares that medical evidence in such cases is mere speculation. He says "that there are no certain methods of distinguishing microscopically or chemically the blood of a human being from that of an animal when it has been once dried on an article of clothing." He will have to harmonize in his testimony the discrepant statements of observers as to the size of human red blood cells in comparison with those of animals and birds; especially will he be called upon to diagnosticate between the difference in appearance of human red blood cells and those of rabbits, dogs and cats.

A class of cases tried in courts of especial interest to physicians are actions brought for alleged malpractices on the part of physicians. Medical experts in such cases are chiefly relied upon to establish or refute the truth of the claims and determine the liability of the defendant physician.

Under the law a physician is responsible to his patient for the exercise of such reasonable care and skill as is ordinarily possessed and exercised by physicians who are admitted to be competent to practice medicine of the same "medical school" as himself, and the law defines a "medical school" to be an organization having rules and principles for the guidance of its followers.

In the trial of a malpractice case, the question as to diagnosis, treat-

ment and general management, care exercised and attention given, whether or not accepted methods were employed, principles of medical belief observed, skill displayed, how far the disability might have been prevented, or whether it was unavoidable, how far the patient might have contributed to the disability by neglect, or failure to follow directions, or whether any subsequent accident or disease might have complicated or altered the character of the initial condition, will be considered and medical experts will be asked to express opinions thereon. Happily for the medical profession very few malpractice suits are successful; probably owing in a great measure to the disinclination of one respectable physician to give evidence against another.

Expert medico-legal testimony under certain restrictions is available in cases of rape, abortion, pregnancy and seduction.

In questions at issue in courts relative to mental condition and responsibility, sanity or testamentary capacity, while ordinary witnesses may testify and express opinions based upon personal observation and knowledge, medical experts are relied upon by reason of their technical knowledge to give competent testimony upon which conclusions are largely founded.

To constitute legal qualification to give expert opinions upon questions involving mental disorders, it is not required that a medical witness should be a specialist in that class of diseases. Knowledge of, and experience in, mental disorders such as a general practitioner may be familiar with will suffice. He may also express an opinion on equal terms with the specialist, upon a hypothetical statement of facts in evidence.

In questions of mental disorder, at legal issue, expert opinions are allowable only where the facts are beyond the comprehension of ordinary judgment and mental conception, but when admitted, as is almost the universal rule of courts, they may be invoked to disclose the causes as well as the existence of insanity, particularly where pathological conditions, both psychical and physical, are etiological factors.

In divorce proceedings a medical expert may testify in questions as to physical competency to sustain a marriage relation. If impotency exists, whether it is capable of cure or not, and which of the contracting parties is impotent; also as to the causes of disease communicable one to another and which party to the contract may be the cause of the disease communicated. Physical structural defect may be a bar to marriage consummation and the opinion of a medical expert may be necessary to disclose its true character to the court.

In criminal cases especially, compulsory examinations by medical experts with incident testimony for the State, depends upon the construction to be placed upon the constitutional provisions which provide that the accused shall not be compelled to give evidence against himself. This has been held only to apply to evidence given by speech or language, not to evidence given by physical characteristics, either normal or abnormal.

In actions instituted for the recovery of damages for personal injuries, it is now quite generally established that the defendant may ask for and obtain from the Court under certain circumstances an order to have made an expert medical examination of the plaintiff's body for the purpose of giving testimony on behalf of the defense as to the existence, nature, extent and permanency of the injuries and disabilities alleged to exist in the declaration, or testimony produced at the trial. It is held to be valid in some states that the plaintiff in a suit for damages for personal injuries may object to a physician or physicians appointed by the Court to examine him if he or they are personally objectionable to him.

In general it may be said that in all questions where the opinions of medical experts concern subjects embraced within the scope of their profession they are admissible under the provisions of the law as competent testimony.

PART II. METHODS OF MAKING MEDICO-LEGAL EXAMINATIONS.

The endowments of mind and body which qualify a physician to make medico-legal examinations may be briefly classed under two heads: First, natural adaptation, and second, adequate cultivation. Without the first the aspirant for medico-legal expert will be unable to use his knowledge and experience to advantage even if complete and extensive; without the second, natural mental acumen and fitness will be without essential supplementation of knowledge and experience, devoid of which the most astute natural qualifications will be impotent.

The methods to be observed in making examinations in medico-legal cases are of the greatest importance; they must be thorough, even exhaustive, and include a complete analysis of the anatomical characteristics of internal organs to the greatest degree possible, with accurate observations, manipulations and examination of every part of the external body. In medico-legal examinations, while both objective

and subjective symtomatology should be carefully considered and duly appreciated, the former offers the principal and most reliable phenomena upon which to base an expert medico-legal opinion.

Examinations of this character differ greatly from the usual medical examinations made for the purpose of diagnosis with a view to therapeutics. In the former, the patient is interested in being sick, in the latter, the patient is eager to get well. As a rule, subjective symtomatology alone and uncorroborated by objective symtoms in persons interested in a suit at law to obtain damages for personal injuries, is unreliable. The disposition to exaggerate or falsify statements of subjective disability made by such interested persons is almost uncontrollable. It is a fact worthy of consideration to remember that a true subjective symtomatology, long existing, will almost of necessity in time result in objective manifestations, more or less positive, so that in the cases of medico-legal patients who claim disabilities entirely subjective, caused by accidents of remote date, with no appreciable evidence of disease, the presumption and probability is that the claimants are malingerers.

Unfortunately the relative value of objective and subjective symtoms has failed of proper appreciation by the courts, and it has been only of recent years that the greatly superior advantages of objective symtomatology in medico-legal cases has received the proper preponderance of attention that it merits. It is now held in New Jersey that in an expert medical examination made by a physician for the purpose of testifying in court that objective symtomatology only is competent observation, but in the expression of an expert opinion subjective symtomatology may be included in a hypothetical question put to the expert and founded on facts in the case. Again, the medical expert may express an opinion upon subjective symtoms appearing as facts in the case of which he has personal knowledge or legal information.

An expert medical examination for legal purposes should develop then, in particular, objective facts in a case, and these facts should be sufficiently clear and established to admit of proper analyzation and induction for the fabrication of an intelligent and logical conception of the precise character of the disease or disability which may exist.

The methods of procedure in medico-legal examinations aim to secure:

1st. A competent and positive diagnosis.

2d. A fair, and as far as possible, reliable prognosis.

As to methods of diagnosis, the following classification is convenient: 1st, Direct; 2d, Œtiological; 3d, Negative; 4th, Differential. These methods may severally be applied according to the character of the case under observation.

By direct diagnosis, positive and conclusive evidence is obtainable.

By œtiological diagnosis, the causes of morbid conditions which determine largely their true character may be analyzed.

By negative diagnosis, presumptive and inferential proof is secured by the exclusion of apparently similar conditions.

By differential diagnosis, distinction between symptoms of morbid conditions and their effects of similar class, proves the existence of a particular disease or lesion.

In the determination of disease or disability affecting the human body in general or a particular part, normal anatomy and physiology must be a basis for comparison and differentiation with the alterations in tissues and organs due to transmatism or disease.

In the examination of a medico-legal patient it is important that as each morbid condition is disclosed, as near as possible, its exact departure, that is, its degree of differentiation from a normal standard, be noted.

In conditions where subjective symtomatology only exists, a reliable diagnosis, unless the statements of the patient are to be credited, is impossible. So that in medico-legal examinations objective symtomatology is always the presumable basis for diagnosis and expert opinion.

A competent and convenient procedure in making examinations will be, first, to note the age, sex, occupation, residence, physical characteristics and general appearance, habits, family relations, family history and such other sociological data as may be necessary to a thorough knowledge of the case. Then, second, when the social history of the case has been carefully noted, the statements of the patient relative to his symptoms should be drawn out and noted. This may be done, not that any reliance should be placed upon uncorroborated subjective symptoms, but for the purpose of a complete and thorough examination and a possible corroboration of subjective by objective symtomatology.

Sensation in different persons varies greatly in its effects; what may be to one person a sensation of almost unbearable pain, to another would be a sensation of no consequence. Exagger-

ation of sensation may be honest, a result of overbalanced nerve force, in which nerve appreciation is hyperæsthetic, in such cases the patients are not real malignerers.

Sensory susceptibility, intellectual condition, emotions and judgment, together with the general physical condition, are important to note in order that a reliable interpretation may be placed upon subjective symptoms. If the mental faculties are unimpaired and the general physical condition good, then exaggeration means in all probability falsification and malignery.

It will require that the examiner be particularly alert, keen and experienced in cases depending upon subjective symptoms solely to prevent imposition upon him. The motive to deceive is irresistable and all the arts and tricks which may aid in deception will be resorted to. In those cases where opportunity may be given, by reason of the patient being an inmate of a jail, asylum or hospital, for strict surveillance and continued observation, subjective symptoms may be analyzed and studied and their validity tested to increased advantage. Hysteria or perverted ideation, a condition where the mind acts upon the body and produces morbid functional disturbances is a very difficult subjective condition with which a medico-legal expert is frequently called upon to deal.

As far as our present knowledge goes, manifestly phychical in its character, it will simulate almost any pathological condition short of positively evident organic lesion. In some cases it will counterfeit objective symptoms so cleverly that even the most adroit and experienced medico-legal observers are nonplused and embarrassed.

Subjective symptoms may be general or local. To be general they must include the whole body or more than one of its distinct parts. The general symptoms will depend upon the nature of the disease which exists. The vaso-motor system is responsible for certain manifestations of general abnormal sensation. The vaso-hypertonic and the vaso-hypotonic nerves cause opposite sensations when irritated to excessive action; one may cause cold and the other hot general sensations of the body. General peripheral nerve disturbance may cause also restlessness, irritability, perspirations, pulsations, sleeplessness, etc.

There may exist general sensations of weakness, fatigue and prostration. In certain mental disorders, such as paretic dementia, psychical aberrations occur, delusional in character, where the conviction

possesses the patient that he has power to accomplish feats of physical strength, endurance or mental effort. There may be general exhilerance or depression, numbness, tingling or burning. Local symptoms, as the name indicates, apply to localized sensations in particular parts or organs of the body, the sensation being distinctive of the perverted function of the part or organ implicated.

In connection with subjective symtomatology the sensation known as pain may be appropriately considered as a subjective condition. To give a concise definition of pain so as to include all its characteristics is a difficult task. Pain involves power of conscious appreciation and depends upon irritation of the central or peripheral nerves. Mal-nutrition of nerve-substance in the peripheral or afferent nerve tract is supposed to be the cause of pain. In its character it may be general, central or peripheral; general where the entire nervous system is involved through the blood, especially in anæmic and toxæmic conditions; central where the cerebro-spinal system is responsible; peripheral where the sensory terminal branches are affected, due to change in structure or perverted nutrition. The range of pain is variable, it may be of all degrees from a mere sensation to intolerable anguish. Pain in its effects upon the body through psychical appreciation will cause objective manifestations which are indicative of its existence, such as:

1st. Facial expression which will vary in character according to the individual affected, but is typical of pain as witnessed in the dilated pupil, the corrugation of brow and face lineaments, the set teeth and jaws, the livid, drawn face.

2d. Physical characteristics, such as positions assumed by the body which demonstrate pain in the part affected.

3d. The presence of a true pain reflex, which to the competent and experienced observer is unmistakable.

Pain is often simulated by malignerers, especially in medico-legal cases and the determination of its true character or existence will require experience and adroitness on the part of the examiner.

Simulated pain may be detected:

1st. By inconsistency in symptoms.

2d. By existence of a motive for pain.

3d. By absence of objective characteristics and typical physical manifestations.

In objective pathological conditions the existence of pain is obvious, where inflammation exists, or where a morbid condition exerts pres-

sure or involves in its limits large nerves. Various mechanical instruments have been devised to detect the presence or absence of pain.

These instruments must depend upon the statements of the patient to prove their efficiency, and therefore, their use is not without objection in medico-legal examinations. One of the most ingenious is the instrument contrived by Bjornstrom, a pair of forceps to pinch up a fold of skin with a scale to register in numerical degrees the amount of pressure made. A comparison may then be instituted between a fixed normal standard and the degree of pain resultant from the test. The ordinary æsthesiometer is the instrument usually employed to determine tactile sensibility. Two large pins will make a perfectly satisfactory and convenient pain testing apparatus. The presence of pain in internal organs beyond sensory detection must be only subjectively evident.

In shock incident to tranmatism, if of severe degree, pain is absent but is generally developed with reaction. If pain occurs after a traumatism the nervous shock is slight. For the appreciation and estimation of pain it may be of advantage to consider:

1st. The location. Some parts and tissues of the body are much more susceptible of pain than others.

2d. The physical characteristics, such as facial expressions, body postures, etc.

3d. The manner of causation. Some pain factors intrinsically possess greater powers of irritation than others.

4th. The variety. Pain varies according to the cause producing it and the anatomical parts of the body affected.

5th. The duration. Inflammatory or lesional conditions produce greater continuance of pain than functional aberrations.

6th. The modifications which may occur after treatment or clinical experiment.

Pain to be real must be logical, it must depend upon an adequate basis for its causation. A "girdle pain" without proper location and corroborative objective symptoms cannot be significant of disease of the spinal cord. It has been already stated that in medico-legal examinations objective symptoms are of chief importance and that subjective symptoms are to be considered only so far as they may be corroborated by objective phenomena.

To determine the existence and character of objective conditions all the five special senses may be used.

1st. By sight, in inspection.

2d. By hearing, in auscultation and percussion.

3d. By feeling, in tactile appreciation.

4th. By smelling, in olfactory estimation.

5th. By tasting, in gustative distinction.

The first three of these special senses, sight, hearing and feeling, are the most important to detect objective conditions and will be specially considered.

A combination of two of the special senses may be necessary to properly appreciate an objective condition. In testing reflexes an example is noted where feeling and sight, in combination, are employed.

By inspection or sight examination, the gross appearance, shape, size and color of a part or the whole of the body, also the facial expressions, physical characteristics, movements, etc., may be determined.

By sight also is determined the gross appearance of physical secretions, excretions, exudations, transudations, dejections, etc.

With the aid of various instruments contrived for particular purposes the hidden recesses of the body may be inspected, the eye, ear, nose, throat, larynx, rectum, urethra and bladder, vagina, etc. The wonderful power of the Röntgen or X-ray penetrates substances of lesser density and marks objects of greater density in strong shadow relief; next to the microscope, it is the most valuable of all instruments yet contrived to assist in diagnosis of inappreciable parts of the body. The microscope in its various forms unfolds to the sight the minute composition of the component parts of the body, solid and liquid, and has proven to be the greatest of all instruments yet invented to detect objective manifestation. The dynomometer will show in scaled degress the amount of muscular power.

By chemical tests important reactions are seen which may afford much light on a diagnosis to be based upon material evidence.

By ascultation or ear examination, sounds, either normal or abnormal, in the larynx, trachea, œsophagus, lungs, heart, stomach and intestines, may be heard and their character and quality determined. Palpation and percussion will assist to disclose sounds of distinctive significance to the ear.

By tactile appreciation or touch examination the nutrition, density, resistance, solidity, softness, coldness, heat, shape, elasticity, smooth-

ness, roughness, moisture, dryness, fluctuation, sensibility, etc., of a part or the whole of the body may be determined, as far as the sense of feeling may be available.

In the exercise of these methods of examination it is important that a true conception of the exact condition existing be obtained and that a comparison be made as far as possible with corresponding normal parts of the body so that the degree of disability may be accurately noted.

Upon the evidence of sensory impressions submitted to a competent mind, with the assistance of such metaphysical symptoms as may be corroborated by the sensory impressions, a medico-legal diagnosis is made.

In the solution of questions involving mental capacity and soundness, the opinion of a medico-legal expert is of the greatest importance.

The definitions of insanity accepted by the law and medical science differ. The law declares all criminals sane who understand the nature and quality of their actions and are capable to judge whether those actions are right or wrong. In the question of testamentary capacity the law provides that the testator must be of sound mind, memory and understanding, and in proceedings to determine lunacy, that the object of inquiry must be mentally incapable of managing himself or his affairs. Medical science defines insanity to be generally a condition of the mind where psychological manifestations show that organ to be impaired or destroyed by disease or defect, either functional or organic.

In law a criminal may be sane and responsible for his acts and yet be the victim of delusions, hallucinations, illusions or imperative conceptions. The aberration of mind must be fixed and continuous to a degree that will destroy responsibility for action and the ability to judge between right and wrong. The presumption, therefore, is that every man is accountable for his actions and competent to manage his affairs until the reverse is without doubt proven and established. If crime is committed it must be shown that the mind was impaired, to the statutory degree, at the time of the crime. A delusion, hallucination or illusion, if existing as a result of mental disease but not to a degree to prevent understanding of action and ability to discriminate between right and wrong as concerns that action, will fail to prove insanity from a legal standpoint.

In the medico-legal examination of a person alleged to be insane

the greatest thoroughness should be exercised. The social history should be carefully noted. Hereditary influences are potent factors in producing neurotic susceptibilities. The excessive use of alcohol is well known not only in producing, but in transmitting to offspring, neurotic temperament.

Certain disease processes also have this faculty. Marks of degeneration should be looked for and noted.

The physical condition generally must be investigated, and the psychic manifestations carefully considered, such as the conduct, attention, memory, judgment, emotions, will, mental conception, moods, moral force, imperfections of ideation, motor and sensory disturbances in general, speech and articulation, sleep, and the presence or absence, character and permanency, of delusions, hallucinations and illusions.

A fair and reliable prognosis is desirable and of value in the pathological conditions affecting medico-legal patients. Especially in cases of attempted murder where wounds have been inflicted or poison administered, or in wounds which result from atrocious assault.

In a question of physical damage from injuries a reliable prognosis is very important. It should include, if possible to determine, the degree of disability and the probabilities of cure, improvement or permanent disability.

Positive diagnosis of permanent disability ought never to be given until sufficient time has elapsed to test any possibility of recovery or improvement.

ESSAY.

BY CHARLES LEWIS ALLEN, M.D., PATHOLOGIST AND ASSISTANT PHYSICIAN, NEW JERSEY STATE HOSPITAL AT TRENTON.

ARTERIOSCLEROSIS AND NERVOUS SYSTEM.

The term, arteriosclerosis, has been used somewhat loosely, but in a general way may be understood to mean a chronic progressive disease, characterized by thickening and loss of elasticity of the vessel walls and ultimately deposit in them of lime salts, with a tendency to deformation and obstruction of their lumina. The process affects, in the main, the arteries, but may also extend to the veins (phlebosclerosis). The capillaries, too, are apt to suffer. The disease is also known as atheroma and arteritis deformans.

Of the causes of arteriosclerosis, advancing age is the most important. It is an old saying that "a man has the age of his arteries," and as Demange has expressed it, "atheroma seizes upon old vessels as moss covers the bark of old trees." However, the disease is not confined to old age, but has been observed even in the latter part of the third decade. In these early cases, heredity, and according to Edgren, more especially syphilis plays an important part. Besides age, a number of other factors have been accused. Edgren, after an exhaustive investigation, gives in the order of their importance, syphilis, abuse of alcohol and heredity. Other causes, as exhausting mental or bodily work, bad food, chronic intoxications (as by lead); the gouty and rheumatic diatheses, he estimates as of minor importance.

It is not the purpose of this paper to discuss the pathology and symptomatology of arteriosclerosis in general, but to consider briefly its effect upon the nervous system, mainly from the point of view of symptoms produced. As is well known, the distribution of arteriosclerosis is variable, all the arteries of the body being liable. Certain arteries, however, are oftener affected than others, and while the scale of relative frequency as given by different authors varies, next to the aorta and renal arteries in liability to attack are to be placed the cerebral vessels. The changes in the vessel walls tend to produce loss of

elasticity, diminished power of resistance and contractility and alteration of calibre. The arteries tend also to dilate and to lengthen, the latter change being shown by increased tortuosity. The process affecting the media interferes with the action of the vaso-motor nerves upon the calibre of the vessels, consequently with the regulation of the blood flow to different organs. A far greater influence, however, is exerted by the narrowing of the lumen through changes in the intima. In order to functionate properly, every organ needs a plentiful and well regulated blood supply. When this fails, functional insufficience occurs. This insufficience, which has been called by Huchard "meiopragia," plays an important role in the subjects of arteriorsclerosis. In no organ is an intact blood supply more essential than in the nervous system, and many of the symptoms which we shall study may be considered as evidences of a "meiopragia" affecting the nervous system. When the nutrient arteries have their lumina permanently diminished, or are entirely occluded, to functional insufficiency of an organ anatomical change is added. The alteration of the intima not only tends to cause gradual narrowing, but favors the production of thrombosis. Where closure of the vessel occurs suddenly, acute necrosis in the territory supplied by it is produced. Where the stoppage is gradual, there is slow death of functionally active tissue, with connective tissue hypertrophy, a sclerosis. Certain sclerotic changes not infrequently found in the spinal cord and brain in old people are probably due to this cause. The increased liability to rupture of atheromatous arteries is known to everyone, and nowhere does hemorrhage show more disastrous results than in the nervous system. It will be well here to review briefly the chief facts with regard to the blood vessels of the nervous system.

The nerves have a very rich blood supply. Each nerve receives its arteries from a constant source, but never all of them from one trunk. An artery frequently accompanies a nerve for some distance and gives off to it a series of arcades generally recurrent, which enter the nerve at an acute angle, and breaking up within it, form very free anastomoses. All the arrangements tending to prevent too prompt and brusque an afflux of blood, which are found in the central nervous system, are repeated in the nerves. On account of the richness of their blood supply, congestion makes itself quickly felt (in nerves). There is close connection between the vaso-nervorum and vaso-vasorum, so that it is hardly surprising that nerves may suffer in dis-

ease of the walls of adjacent vessels. The spinal cord has a two-fold supply, from the anterior and posterior spinal arteries, arising from the vertebrals and from branches of the intercostal and lumbar arteries, the anterior and posterior radicular arteries, which enter the spinal canal with the nerve roots. These latter are much the most important source of supply. They form, with the branches from the vertebrals, an anterior and posterior anastomosis, the former consisting in the greater part of its course of a single main trunk, the latter, of two or more parallel trunks. On account of the larger size of the radicular arteries in this region, the lumbar cord has much the richest blood supply. Branches from the anterior anastomosis enter the anterior fissure, and dividing, turn right and left, each division breaking up to supply the gray matter, especially that of the anterior horn. Branches from the posterior anastomosis pass directly to the cord, supplying the white matter and eventually the gray matter.

Since this latter anastomosis is so rich, the posterior columns are especially liable to be affected by changes in quantity and quality of blood. All of the vessels entering the cord are end arteries and do not anastomose, so that in the case of one becoming plugged, its territory must suffer.

The medulla, pons and midbrain take their blood supply from the vertebral and basilar arteries and their branches. The characteristic point is that they are supplied by a great number of very small and closely placed vessels with very rich capillary network, so that the important centres of this region are guarded from sudden variations of pressure, and though their arteries are end arteries, no important locality is entirely dependent upon one vessel. The general blood supply of the cerebellum and of the cerebral hemispheres, through the three cerebellar, and the anterior middle, and posterior cerebral arteries, arising from the circle, or, more strictly, polygon, of Willis, is familiar to all, and it is only necessary to allude to the arrangements for its distribution. The arterial branches anastomose freely in the pia, but the smaller twigs which pass from this membrane to the cortex are characteristically end arteries, and when one is plugged, no compensation is possible and local softening occurs. The important basal ganglia are supplied by a number of small arteries arising from the middle cerebral in the anterior perforated space. These last are specially liable to be affected by arteriosclerosis, and of all arteries are most likely to burst. One in particular has been called by Charcot

the artery of cerebral hemorrhage. Throughout the brain the familiar arrangements for preventing sudden changes of pressure, namely, tortuosity of arteries and division into many small branches, are found.

The symptoms produced by sclerosis of the vessels of the nervous system are variable, and not always proportionate to the extent of the vascular disease. In their production, neuropathic constitution and heredity are factors of importance. They are sensory, motor and psychical.

There are on record cases in which degeneration of nerves with sensory and motor symptoms and atrophy of muscles have accompanied sclerosis of their vessels and have seemed in all probability due to the vascular change. This form of neuritis occurs mainly in elderly people, and has a much less regular distribution than the polyneuritis of toxic or infectious origin, hence lacks the characteristic grouping of symptoms of the latter. It is called by Gowers, atheromatous neuritis, and is decidedly rare. Functional disturbances are less infrequent. Temporary anæsthesias are not uncommon, and are sometimes accompanied by evidences of local asphyxia, the dead fingers of arteriosclerotics being a familiar example. Numbness and slight anæsthesia are not necessarily peripheral, but are probably more frequently of cerebral origin, however. Pain, often severe and persistent, usually worse at night and increasing on movement sometimes occurs. Neuralgia has been defined as the "prayer of the nerve for healthy blood," and it is not surprising that it occurs when the circulation is interfered with. It seem not unlikely that cases of severe neuralgia which are benefited by nitro-glycerin may be connected with the increased vascular tension of the early stage of arteriosclerosis. The motor functions suffer less frequently, though temporary pareses and paralyses occur. A very interesting symptom is "intermittent limping" (claudication) which occurs not infrequently in quite young people, and is pretty certainly due to a sclerosis (often very precocious) of the arteries of the foot. Trophic changes, such as gangrene, are more likely due to the vascular disease than to the nerve involvement.

In the spinal cord miliary aneurisms, so common in the brain, and hemorrhage and thrombosis (except of very fine vessels) are exceedingly infrequent. It is probable that temporary motor and sensory disturbances may be due to arterial disease in the cord, though it may be difficult to decide whether the change is in the brain, the cord or the nerves.

That scleroses situated in the posterior or lateral columns or diffused throughout the cord occur in connection with arterial disease is shown by cases reported by Demange, Ballet, Déjérine and others, and certain forms of myelitis seem due to obliterating endarteritis. Some of these cases have been marked by muscular rigidity and contractures. The senile paraplegia of Gowers (though by that author attributed to change in the motor cells) seems to the writer more likely connected with sclerosis due to arterial disease, and this view is supported by a case described by Kelly, in which there was perivascular sclerosis most marked in the posterior and lateral columns, especially in the dorsal region.

In the case of a man of sixty-six, which I recently observed, there was marked arteriosclerosis and senile dementia with recurrent epileptiform convulsions, the patient rather suddenly became paraplegic and could not walk, the knee jerks were slightly increased, sensation seemed little, if at all, altered. Some dribbling of urine had been present prior to the attack. In about a week the patient had improved and could walk again. Temporary disturbance of circulation seems the most probable cause of the paraplegia. From an examination of the spinal cords of over thirty cases, Sander finds that in old persons with arterial degeneration, sclerosis, either diffuse or in foci, most commonly starting at the periphery, is apt to occur. In somewhat younger subjects there are apt to be larger foci, with ascending or descending degeneration.

The anatomical arrangement of the arteries of the medulla and pons make hemorrhage and embolism comparatively rare, while chronic softening from thrombosis is not uncommon. It is not so rare to find in the subjects of arteriosclerosis some disturbance of function in the muscles of the throat and tongue, but this is probably a pseudobulbar and not a true bulbar paralysis, and depends upon lesions in the brain cortex. One of the most common symptoms of arteriosclerosis of the brain is vertigo, and this has been thought by Mendel to be due to disturbance in the blood supply to the nuclei of the third or to those of the eighth nerve, whose nutrient arteries are given off in the region of interference between the blood stream from the carotids and that from the vertebrals. It seems certain that convulsive siezures may be due to sudden interference with the blood supply of the brain, and it is the opinion of some authorities that the epileptic attack, or at least the tonic spasm, may arise from the medulla and

pons. The interesting Stokes-Adams symptom-complex, a condition of exceedingly slow pulse with epileptiform or apoplectiform attacks, has been attributed to the coexistence of sclerosis of the arteries of the bulb with cardiac sclerosis.

Apart from furnishing conditions favoring rupture or plugging of the larger arterial trunks, whose symptoms are so well known as to need no discussion here, arteriosclerosis of the brain is responsible for certain general symptoms. Of these, vertigo, already alluded to, is generally earliest to appear. It is increased by sudden changes in position, and may usually be brought out by having the patient lower his head to between his knees, then suddenly raise it. It may occur in attacks with tinnitus aurium, and in that case may be due to changes in the vessels of the inner ear. Numbness and tingling in the extremities, already alluded to, are frequently of cortical origin, as may be temporary paralyses and speech disturbances. A very important symptom is the occurrence in elderly persons with sclerotic arteries, of epileptiform attacks (such seizures never having occurred during early or middle life). This constitutes a special variety of epilepsy, senile or arteriosclerotic epilepsy. The possible dependence of these attacks upon sclerosis of the bulb has already been mentioned, but they probably arise most frequently from cortical sclerosis. They may take the form of vertigo or "absence" (petit mal), there may be tonic and clonic spasm followed by coma, one or the other of these may alone be present, the attack may be apoplectiform in character, or it may consist of some psychical manifestation, the epileptic equivalent. Some interesting cases of senile epilepsy were reported by the writer several years ago, and observation since then has convinced him that it is not so uncommon, especially among the senile insane. Senile chorea, paralysis agitans and tremor have been attributed to cortical sclerosis of vascular origin, but direct proof of such connection is wanting.

Régis has brought forward the idea that there is a close connection between arteriosclerosis, generally precocious, and neurasthenia. He points out that neurasthenia and the early stage of arteriosclerosis have many symptoms in common, and expresses the opinion that the latter disease is present, often in obscure form, in many cases diagnosed as neurasthenia.

That the nutrition of the brain must suffer in advanced arteriosclerosis is evident, and it is not surprising that in the psychoses of

old age arterial changes play an important role. In advanced cases, the small arteries and capillaries, as well as the larger arteries, have undergone alteration, and even where there are no large areas of softening, there are apt to be degenerative changes in both nerve cells and nerve fibres. A certain degree of forgetfulness and diminished soundness of judgment, often with insomnia and restlessness, is present in most people of advanced age. In those having unsound arteries, these symptoms may appear much earlier, and there may be true mental alienation. This may take the different forms of mania, melancholia, or confusion, with hallucinations and illusions. There are usually marked egoism and hypochondriacal delusions, but through all the progressive mental enfeeblement makes itself evident, and probably the characteristic psychosis is a dementia. A class of cases in which there is progressive dementia with apoplectiform attacks and other symptoms simulating general paresis has been described. The diagnosis of arteriosclerosis of the nervous system is to be made by the evidence of arterial disease elsewhere and by the general character of the symptoms. The superficial arteries are not always affected, and ophthalmoscopic examination of the retinal vessels is recommended. The prognosis in the advanced disease is unfavorable, and it is only in the early stages that there is any hope of staying its progress. To this end general measures addressed to the arterial disease are appropriate. These consist, in the main, of suitable hygienic and dietetic measures, the avoidance of constipation, care of the skin, etc. Long continued use of potassium iodide in small doses, is of undoubted benefit. Régis recommends a combination of sodium bromide and sodium iodide, and in the early stages where lack of elasticity is the chief symptom he gives a pill of hamemelis and ergotin three times a day. A treatment proposed by Rumpf has for its object the reduction of lime salts, on the theory that arteriosclerosis is a process tending to their deposit in the vessel walls. He rejects the commonly recommended milk diet, and gives instead meat, fish, bread, potatoes and fruit, with distilled water as a beverage. To increase the excretion of lime, he administers lactic acid as lactate of sodium. The epileptiform attacks are not always controlled by bromides, and in cases where there is weak circulation, heart tonics, such as strychnine or caffein with nitro-glycerin, or nitrite of sodium may be indicated.

DISCUSSION.

Dr. E. W. HEDGES, of Plainfield.—I have listened with a good deal of pleasure to this paper, and only wish to say a word regarding the cause of the disease. The writer has said that arteriosclerosis is due to the deposition of lime salts in the walls of the blood vessels, and that once let the arteries get hardened old age is upon us. As Osler says, "Old age is an arterial question." We all know people of fifty years as old as others at seventy-five, because they are suffering from arteriosclerosis; and if any way could be found of putting off this hardening process, we would by just so much defer the on-coming of old age. For what makes us old is not that we have lived so many years, but that the stiffened arteries carry a diminished blood current to all the vital organs. The peptic glands are not well nourished, and as a consequence digestion is enfeebled, the brain cells get less blood than formerly, and we get an atrophy with loss of memory and indifference, leading to second childhood, as we call it. And so throughout the organism, we have impaired function from the smaller blood supply.

Life insurance companies are beginning to recognize the bearing of hard arteries upon the risks they assume, for, as you all know, within the last two or three years they have required a report as to whether the temporal and radial arteries are atheromatous. These things being so, how can we defer the deposition of earthy salts in the coating of our blood vessels? The writer has intimated at the close of his paper a way that is practicable for all of us, viz.: by regulating our diet; for the source of these salts is undoubtedly in our food and drink.

Dr. W. Gilman Thompson, in his recent book on Dietetics, makes a division of foodstuffs into four varieties. He says that fruits and nuts contain almost no

earthy salts, that meats and fish contain a larger quantity, that vegetables contain a still larger amount, and that the cereals contain the most of all. If this is so, and his statement is amply corroborated, it follows that to keep young we must live largely on fruits and nuts, moderately of meats, sparingly of vegetables, and avoid the cereals.

History, curiously enough, bears out this argument. When man first appeared upon this fair earth he did not know the use of fire, and he was placed in a warm climate, where fruits, nuts and berries ripened about him and must needs have been his food. Later he fashioned implements of chase, and added the flesh of animals; next came vegetables, and last of all the grains. The earliest historical records tell us that Adam and Enoch and Methuselah, and other worthies of those times, thought nothing of living eight or nine hundred years. But there has been a gradual fall during the centuries, until with the advent of the pastry cooks we are fortunate indeed if we reach three score years and ten. Yet in India there was a religious sect known as Gymnosophists, whose creed required them to eat only such things as the sun ripened, viz.: fruits, nuts, berries and melons, and we are told that they lived to be two hundred years old in full possession of all their bodily and mental functions. Goldsmith, in his history of England, says that the ancient Britons did not begin to grow old till they were a hundred and twenty, and that they lived almost exclusively on roots, nuts and fruits.

Travellers in the South Sea Islands tell us that the men there go to war when they are a hundred years old, and serve as actively as a youth of eighteen would here, and the diet there is fruits and nuts.

These illustrations only enforce the argument in favor of a return to the diet of primitive man in order that we may attain somewhat to his length of years.

One other cause of atheroma we are apt to overlook, and that is over-eating. Nitrogenous and other digestive waste comes from taking more food than we can digest, and its presence in the blood stream irritates the lining membrane of the vessels and undoubtedly causes a thickening of their coats.

A London physician, whose name I have forgotten, has collected statistics of a thousand people who lived to be a hundred years old or over, and he found, in looking for a common cause for their longevity, that some drank whisky and others were teetotalers, that some worked hard and as many more did nothing, some used tobacco and some didn't, some lived indoors and others outdoors, but they were all small eaters. If, then, arterial hardening is caused by eating certain foods rich in earthy salts, and by overeating as well, can we not put off advancing age by avoiding these errors and eating more largely of those things that a bountiful nature prepares ready for our use.

Dr. RYERSON, of Boonton.—This is a subject in which I have been very much interested for a number of years, yet, perhaps, I should not say anything about it because I wish to say so much. How are we to postpone the deposit of atheroma? "A man is as old as his arteries." What is the cause of this condition of the arteries? Men seem to forget that this deposit in the arteries is caused by a poison or a retention of one of the natural excretions of the body in the blood. We know nearly all of the secretions of the body; we know that the kidneys are the great eliminators, yet sufficient attention has not been given to the elimination by these organs of the phosphates. I have reason to believe that the cause of old age and of atheroma is probably to be found in the phosphates. They are not eliminated properly, and perhaps give rise to that poison which, when retained in the sys-

tem, gives rise to arteriosclerosis. I do not know very much about the phosphates, but I do know that many disorders of the system are caused by atheroma, and in all these there is a diminution of the phosphates. If this is so, why not give something to increase them? That is just what has bothered me for the last ten years; I have not been able to find anything which would increase the elimination of the phosphates through the urine.

At one time I read a paper before this Society on lactose. I hardly dare tell this audience what results I have had from the use of lactose. My studies taught me that the increase of the phosphates under the use of lactose was, on an average, about 50 per cent. I know of no other medicine that will give such a result. Simultaneously with the increase in the phosphates was the improvement in the symptoms. I would suggest, therefore, that the increase in the phosphates may be the cause of arteriosclerosis.

Dr. B. A. WADDINGTON, of Salem.—I shall have to disagree with Dr. Ryerson because I think that while one lives they should live. My idea is that arteriosclerosis is due to a certain extent to a specific disease, and that disease may be syphilis. Let us enjoy ourselves as we go along, but live in moderation. I have met with a good many who have become prematurely old because of bad habits.

ESSAY.

BY ALEXANDER McALISTER, M.D., CAMDEN, N. J.

INFANT FEEDING: SOME OF THE DIFFICULTIES IN THE MANAGEMENT OF THOSE DEPRIVED OF MOTHER'S MILK.

A year ago, at the meeting of the American Medical Association, it was my privilege to read a paper on the subject of infant feeding. In substance, this was a plea for a closer adherence to, and a stronger advocacy of, nature's method of feeding on the part of our profession.

My contention was that the amount of professional attention which must be given artificially-fed infants, if bestowed upon the mothers, would enable them to suckle their offspring and effect a material change in the present infant mortuary records. The advantages of at least part breast feeding were pointed out and urged to more general consideration.

But in the face of all that can possibly be done for the parturient, therapeutically or otherwise, before or after her confinement, a considerable proportion of infants must be launched upon the stream of life as a more or less completely independent bark very early in life. This proportion is inevitably increasing as a direct result of so-called social progress, is a melancholy fact which pleads strongly for careful consideration in our periodical deliberations.

It is my purpose to-day to consider the needs of these social waifs, these infant gamins, and to point out some of the more important problems they present. The term management has been chosen in formulating the subject because it is the most comprehensive that could be selected. It is not my purpose to enter the domain of treatment, but rather that of difficulties.

Louis Fisher, in the same text, makes the statement that medication amounts to nothing in the treatment of this disease, and again, in speaking of a confirmed state of marasmus, that recovery without treatment is impossible. The treatment of these cases is at best a species of manœuvering, a question of management in which the

infant, its food, the attendants and the home surroundings, generally, require specific attention. The average case of typhoid fever is more easily managed than the manifestly unthrifty infant; in the former new and improved environments appear almost spontaneously. The best intelligence available is brought to the bedside, or it may be the patient is removed to a hospital. Not so in the case of the infant; it must take its place in the home circle and very frequently suffer the disadvantages and misfortunes that spring from the special attention of nobody in particular. To the family physician the problem is too frequently one of towing a frail bark along a narrow stream, beset with numerous difficulties. He is confronted by a condition and not a theory, by a real live picture and not merely a reproduction of a text-bookward picture. Indeed, in our line of practice one frequently experiences that in the development of these cases the excellent works of Fenwick and Baginsky on pathology, or of Parrott on classification, or of Rotch and others on feeding, were not taken into consideration, and each new experience confirms a truth that cannot be too frequently restated, namely, that no fixed rule can be formulated so as to meet the indications in all cases. The only evidence of disease obtainable may be the failure to show an increase in body weight at each repeated weighing and pass unnoticed until a real, if not a fatal, morbid state is the result. Thus, lack of growth may be relative, absolute, or, what is worse, involve an actual loss. In the first and second instances the stool may not differ particularly from those of a thriving infant of the same age. True, they may be green for the most part and contain occasionally mucus and curds, but these conditions are sometimes met with in thrifty breast-nursed infants, and are characteristic of the artificially fed, and are never in themselves regarded as indicating the need for treatment.

These facts show the importance of demanding that all artificially-fed infants be periodically weighed and the successive readings recorded, beginning with that at birth and recording weekly. Only such practice will afford adequate means for judging of the value of the food taken and for indicating when and what change should be made in the food given. The subject may be further taken up advantageously in the order already given:

(1). The Infant.—The family history may show struma or tuberculosis or syphilis; if so, one of these will probably be found a powerful predisposing cause of the infant's failure to grow; whether these states

are regarded as inherited or otherwise, it matters not. If present, these peculiar systematic conditions will soon be manifested by their effects upon nutrition and development. It may be that such manifestations are already present at birth, and their subtle power to predispose to all kinds of diseases must not be overlooked. In a typical athreptic infant that was also strumous and developed a very low type of marasmus, which continued to the beginning of the eighth month, my note book shows the following long train of diseases and morbid states: General and digital cyanosis from birth gradually disappearing after several months, umbilical hemorrhage and hernia, uric acid infraction, paralysis of left leg, colitis, rectal ulcers, furunculosis, rhinorrhœa, otalgia, measles, eczema and, finally, capillary bronchitis. All these occurred prior to the eighth month, at which time the infant began to improve, and it may be incidentally remarked, made a perfect recovery.

(2). The Food.—Much has been written in recent years upon the home modification of cow's milk and numerous formula and devices are offered for the purpose, each, no doubt, having its merits and demerits, but there is still a demand for a clear and concise working process, such that anyone not a chemist, but a person of average intelligence and a minimum of time can pursue and obtain satisfactory results. Unfortunately for many a mother and her infant, the problem is not so easy in the family as the skilled chemist and physiologist would have it appear, even in homes where the materials are easily obtained, the all-important measure of intelligence, patience and persistence required to work a chemical formula or a mechanical process at all hours of the day or night, is often sadly lacking among the lower classes. The question of securing and keeping on hand a suitable quality of milk, especially during the warm months, is a vexing one, and the advantages of handling possessed by condensed milk, though manifestly inferior to raw cow's milk, a domestic boom. The same applies to the various so-called artificial foods of commerce, which in the manner in which they are advertised, offers to the mother what seems to her an easy solution of the problem. In this connection, it should be observed that fatness, rather than robustness, is too generally made the criterion in hand-fed infants. These terms are not synonymous. There are two classes of fat infants, those of the natural fat type and those made so by padding with excessive quantities of carbohydrates, the former may or may not possess a fair degree of

robustness, as shown by their power to resist disease or to rally under diseased conditions. The latter are not possessed of an adequate degree of resisting power. The laity needs to be educated along these lines.

(3). The Attendants.—The difficulty arising from the absence from so many homes of those sterling qualities which stand for the best interests of an infant inmate, has already been referred to in speaking of the difficulties of home modification of milk; to this must be added those miserly propensities which defer calling in the family physician, and open an attentive ear to every dietary suggestion made by over-sympathetic callers. Too frequently the physician is given charge of the case only after every known domestic measure has been tried and found wanting. While these conditions prevail the infant's food is changed under the slightest provocations. The evidences of over-feeding are misconstrued to mean that the infant is starving, with the most vicious results. All the symptoms of distress are aggravated, and another change of food is the ultimate outcome.

It is to be feared there is prevalent a notion that anybody can minister to the wants of a bottle-fed baby. The pressure of social functions, or the necessity to return to the mill or workshop, too frequently and too early remove the mother from the constant companionship of her infant. If, in her stead, the entire attention and care of the infant could be delegated to one intelligent and capable other person, the solution of the problem would frequently be greatly simplified, but this is rarely possible, and the result is the least capable persons render the largest share of the service.

(4). The Surroundings.—Among the lower classes the home surroundings are sometimes so unhygienic that this condition militates materially against the well-being of these little waifs. True, one finds not infrequently, infants enjoying a remarkable measure of robustness because of, or in spite of, the filth and squalor by which they are daily surrounded, yet such cases are comparatively rare among the bottle-fed, who more frequently than others show constitutional taints. Another adverse condition, the direct opposite of the foregoing, is not infrequently seen in the homes of the well-to-do. This is the excessive measure of attention and parental solicitude which always makes puny and sickly infants; such infants are unwittingly robbed of that measure of natural immunity to disease which is the reward of "roughing it," even in infant life.

All these difficulties and a number of others less common, but equally important, enter into the problem of the treatment of hand-fed infants. To ignore them is to fail in their management. To treat these difficulties, rather than the infant, is quite generally the only avenue of success.

DISCUSSION.

DR. EMERY MARVEL, of Atlantic City.—It has been a great pleasure to hear what the essayist has had to say about the transmission of hereditary disease, and also regarding the chemical composition of food. I had hoped that more would have been said about the quantity as well as the quality of the food for infants. I have had an opportunity of seeing a great deal of harm from overfeeding. An illustration has recently come to me. An infant was brought to the seashore suffering markedly from malnutrition, though its feeding had been superintended by an eminent pediatrician of New York. The child had a temperature of 105° F. at night and 102° during the day. The food was reduced to one-half the quantity, and the result was immediate improvement.

ESSAY.

BY HENRY MITCHELL, M.D., ASBURY PARK, N. J.

WHAT ADMINISTRATIVE MEASURES ARE PRACTICABLE FOR THE PREVENTION OF PULMONARY TUBERCULOSIS?

All of the great questions relating to the prevention of disease have, each in turn, commanded the earnest attention of practitioners of medicine, but, since the victory over small-pox which followed the introduction of vaccination, none of them has proved of such absorbing interest as the prevention of tuberculosis, and the discussion of this subject will doubtless continue with unabated energy until more general agreement can be reached concerning the efficiency of the procedures which have been proposed, and which are now on trial, for the further restriction of this disease.

The establishment of sanatoria for the instruction and treatment of persons in the early stages of phthisis has met with almost unchallenged approval on the part of physicians, but certain administrative measures have not thus far been shown to be free from objections, and I desire at this time to refer (1) to this form of tuberculosis as a cause of death in New Jersey, and (2) to present some of the reasons for the adoption of a conservative course in the application of State and municipal regulations designed to limit its spread.

An examination of the mortality tables of New Jersey shows that during the twenty-two years ending June 30, 1900, there were 73,309 deaths recorded as having been caused by pulmonary tuberculosis, a greater number than was caused by diphtheria and croup (29,989), typhoid fever (12,223), scarlet fever (10,115), whooping cough (5,168), malarial fevers (4,567), measles (3,585) and small-pox (848) combined. During the eleven years (1888-1898) a very marked diminution in the number of deaths from this cause occurred, and inasmuch as this unusual improvement was coincident with the popularization of the knowledge of the methods by which phthisis is communicated, there appears to be justification for the opinion that this extraordinary decline in the death rate from tuberculous affections during that period

was, in part at least, the direct result of the application of the teachings of bacteriology, which quickly obtained wide publicity among the educated classes.

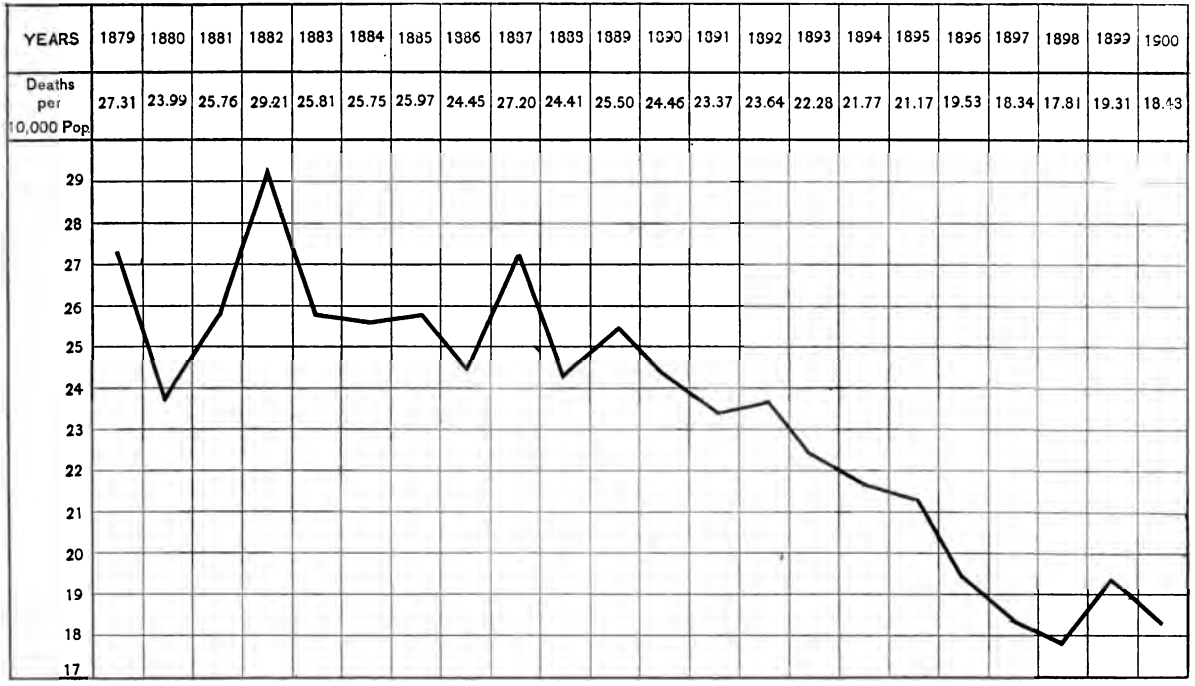
The faulty classification of deaths which has hitherto prevailed has led to gross errors in grouping deaths from diarrhœal diseases among children under five years of age without separating those dying from unmistakable tuberculous causes, and the notable decrease in the deaths charged to diarrhœa in this age period, which occurred simultaneously with the falling off in deaths recorded as being due to general and specialized tuberculosis, probably indicates that the pasteurization of milk is to be credited with the saving of many lives which would, without this precaution, have been lost as a consequence of tubercular infection of the intestinal tract.

Faulty classification has also led to confusion in the certification of deaths from acute diseases of the lungs; adult brain diseases and adult intestinal diseases, and as there has been diminution in the number of deaths in each of these groups, it is reasonable to infer that a considerable proportion of the deaths so recorded has, in fact, been caused by tuberculous affections. (See chart on opposite page.)

The mortality from all tuberculous affections has been gradually undergoing reduction for many years, consequent, doubtless, upon better modes of living, better dwellings and better food. Credit for these improved conditions and for the lessening of the number of deaths from tuberculosis must be given to the work of the older sanitarians, for, although the early records of causes of death are not altogether reliable, yet it is probable that the deaths from phthisis, which have been reduced in England and Wales one-half in the course of the last sixty-five years, have declined to one-third of the number which prevailed previous to the labors of Chadwick, Farr, Simon and other pioneers in modern public hygiene.

Tuberculosis scarcely ever spreads where cleanliness prevails; where the air, the water and the soil are free from pollution; where sunlight freely enters; where the body is kept comfortably clothed, warm and dry; and where the food supply is abundant and wholesome. This is the teaching of the experience gained during the half century which preceded the discovery of the tubercle bacillus, and the reduction in the mortality which has resulted from a very imperfect application of these principles has reached proportions which justify the highest praise of the discernment and achievements of our predecessors.

CHART SHOWING DIMINISHING MORTALITY FROM PULMONARY TUBERCULOSIS IN NEW JERSEY, 1879-1900.



Incidentally it may be noted that is is not alone in deaths from tuberculosis that a reduction has occurred during the past century, but the influences which have secured such desirable results in the case of that affection have also served to diminish the mortality from all of the preventable diseases and to prolong the average length of human life fully ten years. In New Jersey the mortality from scarlet fever has diminished during the past twenty-two years from 6.53 to 1.10 deaths per 10,000 inhabitants, and from diphtheria from 10.14 to 5.53.

As in the past, so in the future, reliance must be mainly placed upon the public health service for the application of the measures which are recognized as efficient for preventing the spread of communicable diseases, and it behooves health officers to advance with great discretion, and to invariably choose lines of procedure which have the approval and which will attract the co-operation of the progressive members of the medical profession.

Consumption is now everywhere regarded as a preventable disease, and the public interests, as well as those of infected persons, call for active efforts to limit its spread and to promote the recovery of those who have fallen victims to its ravages, and who may be unable to provide for themselves. Those who are now suffering from the disease are entitled to much more sympathy and forbearance than those who may hereafter contract the malady will be entitled to, for the masses have thus far had no realizing comprehension of the manner in which the infection is communicated, but education is rapidly extending in this direction, and there is reason to expect that one of the early advances of the twentieth century will be a more general understanding of the methods by which the infection of phthisis may be avoided.

In New Jersey the Legislature has enacted a provision (see chapter 36 of the laws of 1900) which enables every board of education to cause instruction to be given in the public schools, both to teachers and to pupils, concerning the means which should be employed to promote health and avert disease, and the members of this Society can, through personal influence, do much toward securing the inauguration of systematic medical inspection of public school pupils and the teaching in the schools of personal hygiene.

When regular instruction of this character has been generally introduced there will no longer exist the same degree of moral responsibility on the part of the public for individual disregard of measures for self-

protection against phthisis, and repressive measures, even including segregation, will seem less of a hardship in cases where carelessness for the welfare of others is shown by those who are infected.

Administrative measures for preventing the spread of consumption should embrace (1) the general application of the principles of hygiene, including the enforcement of laws and ordinance designed for improvement in the construction of dwellings, especially the dwellings of the poor, and for securing habits of cleanliness, particularly in tenements, shops, factories, school buildings and prisons; such measures should also be designed (2) to maintain healthful conditions on all premises, including a wholesome water supply, quick and safe disposal for refuse materials, abundant light and ventilation; (3) to prevent the sale of contaminated milk and other unwholesome foods; (4) to provide free laboratory service for the early diagnosis of the disease; (5) to distribute printed instructions and information to guide consumptives, and the persons with whom they dwell, concerning the methods by which the disease is spread, and by which its spread can be prevented; (6) to enforce ordinances prohibiting expectoration upon the floors in public conveyances and public buildings, and upon street sidewalks and crossings; (7) to disinfect infected apartments, from time to time, upon request, and whenever a patient dies or removes; (8) to learn, by house to house inspection, the location of every apartment which is infected; (9) to secure regular, periodical, medical inspection of the pupils, teachers and janitors in all day schools and Sunday schools, and to prevent the attendance in these institutions of persons affected with phthisis. Voluntary notification by physicians and others of the name and address of persons suffering from the disease should be followed by such a degree of oversight as each case may demand, and when the patient is found to be indifferent to the safety of others, or when he is incapable, for any reason, of so disposing of his sputa that it will not infect other persons, he should, as soon as sanatoria are provided by the municipality, county or State, be at once isolated. Opportunity for such isolation is urgently needed in New Jersey, and systematic instruction in such an institution in the principles and practice of prophylaxis would doubtless frequently warrant the early return of the invalid to his home and to his usual occupation.

The consideration which should influence our judgment in undertaking to decide when notification by physicians shall be by ordinance required in cases of pulmonary tuberculosis relate mainly to the con-

servation of the public interests as distinguished from those which affect the patient only, and if it can be shown that a knowledge of the name and address of each case coming under professional supervision will serve to prevent the spread of tuberculosis, we, as physicians, will cheerfully place the data in the hands of the proper officers. But to what extent can physicians supply the data in question? Phthisis is a disease which affects large numbers of persons before they are themselves aware of any serious departure from health, and the infectious discharges are often expectorated for months before medical advice is sought. If, however, notification should be by law required, and the comparatively few cases thus observed should be brought to the attention of the health board, what action will be taken which will justify such a requirement? After making an official record of the case, and after the delivering to the patient, his family, his landlord and his employer printed information and instructions setting forth the communicable nature of the disease and the measures to be employed in dealing with consumptives and their sputa, the health officer must then, under present conditions, await results. Note the contrast between these methods and those employed in outbreaks of the other communicable affections which are, by universal consent, placed on the notifiable list. In smallpox, for example, the health officer has only to follow the beaten track in dealing with a case of the disease after it has been reported, and with perfect confidence he applies the unfailing preventives—isolation, vaccination, disinfection. Is it within the power of the health officer to employ any procedures of comparative value in arresting the spread of tuberculosis? Unlike smallpox and scarlet fever, the danger period in phthisis is not limited to a few weeks, but the disease usually continues with unabated virulence for months or years, and domiciliary surveillance is for such periods, altogether impracticable. Doubtless the destruction of all infected sputa would prove effectual as a preventive, but coercion of the vast army of infected persons to the extent of securing the needful change in their habits which would attend the collection and safe disposal of sputa is at present quite beyond the reach of the most resourceful sanitary authorities. Meantime the individual who has been blacklisted loses his occupation and becomes a charge either upon his family or upon the public. A very common proposal on the part of advocates of imperative notification is that the registration record shall be private, but no one can guarantee that a public record will be kept private,

and in practice such a course would be found impossible. The recent action of the United States Treasury Department in prohibiting the admission of immigrants who are affected with pulmonary tuberculosis will serve to exclude advanced cases of the disease, but the difficulties of diagnosis will render the new requirements inoperative at ports of arrival in a large proportion of cases. Indeed, the limit of official action for preventing heedless distribution of tubercle bacilli is thus far so narrow that we must admit its entire inefficiency when the great number of infected persons is considered. Naegeti reports 500 autopsies made in the pathological institute of Zurich, and he concludes:

1. Tuberculosis during the first year of life is very seldom found.

2. From the first to the fifth year it is infrequent, but almost invariably fatal.

3. From the fourteenth to the fifteenth year one-third of all dead bodies are found to be tuberculous.

4. From the fifteenth to the eighteenth year tuberculous lesion are found in one-half of all autopsies.

5. From the eighteenth to the thirtieth year 97 per cent. of all bodies show tubercular changes.

6. After the thirtieth year, on careful search, indisputable evidence of tuberculosis is found in over 99 per cent. of all autopsies.

When we consider that a majority of those who are affected with this disease recover, and that in a vast number of cases where death occurs from other causes the lesions found in the lungs after death afford the first indication, showing that the individual was at any period of his life a source of infection to others, it will be seen that the information obtainable during the life of the subject must always remain insufficient, and cannot be extended to incude all persons who are capable of spreading the disease.

Notification of pulmonary tuberculosis by physicians is, therefore, wholly inadequate for supplying the data necessary for complete registration of cases, and it may be considered practically worthless as a means of preventing the spread of the disease when we remember that health authorities have not yet done more in response to notification than proffer good offices, including distribution of circulars and disinfection when apartments occupied by the patient are vacated.

The agitation which has been aroused during the past few years concerning the communicability of consumption has very naturally

led in some localities to the almost automatic extension of the lines of defence which have long been in successful operation against the acute eruptive diseases, but a broader and more comprehensive view of the situation demands that the campaign against this monstrous foe to human life shall be attacked in advance of the inroads which are so speedily made after the diseased processes are once begun, and nothing short of a hygienic revolution will avail to defend humanity against the losses which are now being inflicted by this most deadly of all diseases.

ESSAY.

BY NORTON L. WILSON, M.D., ELIZABETH, N. J.

SOME OBSERVATIONS ON THE NEW HÆMOSTATIC ADRENALIN.

Mr. President and Gentlemen:

During the past few years I have used the aqueous extract of the supra renal capsule of the sheep in my work upon the eye, ear, nose and throat, with more of less success, but it decomposes so rapidly and the various antiseptics used to prevent this decomposition alter its chemical composition to such an extent, that I gladly welcome its active principle, adrenalin.

During the summer of 1900, Dr. Jokichi Takamine informed me that he was endeavoring to separate the alkaloid or active principle of the supra renal gland. In October of that year I called at his laboratory and saw what the doctor designated as the blood pressure raising principle of this gland. He submitted to me for inspection a grayish white powder, which, under the microscope, showed needle-shaped crystals.

It was sparingly soluble in water, but dissolved readily in dilute acid. A solution of one to ten thousand parts in water was made and dropped into the doctor's eye. He assured me he had himself introduced it into his own optic on several occasions without injury. In its basic form it absorbs oxygen from the air so rapidly that it was necessary to make a salt of it, and for this purpose hydrochloric acid was added, and as a result thereof there was obtained a chloride.

The active principle thus isolated had not then been named. Upon the suggestion of the writer the name "Adrenalin" was given to the newly discovered product, and under this name it is placed upon the market by its manufacturers, Parks, Davis & Co.

Three solutions were made; one of one part to ten thousand, one of one part to five thousand, and one of one part to one thousand. At present the only solution manufactured is that of one part to one

thousand. To these solutions of adrenalin chloride the manufacturers have added one-half of one per cent. of chloretone, for which they claim a slight anæsthetic and antiseptic action.

It is also manufactured in tablet form with sodium chloride, and in this form tartaric acid is used instead of hydrochloric acid, making it a tartrate of adrenalin. The tablets are very soluble in water, and when added to one drachm of water make a solution one to one thousand. In this form they are most convenient for use. In the form of solution contamination soon follows, especially if a dropper is frequently introduced. Sterilization can be effected by boiling without apparent injury to the solutions, but the tablets are more desirable because they can be used from time to time as occasion requires for making fresh solutions in small quantities.

It is unnecessary to furnish you with a tabulated statement of the number of cases in which the writer has used adrenalin. It has been used freely by him in cases affecting the eye, the nose, the throat and the ear.

His experience shows that one drop instilled into the eye produces a slight smarting sensation for about twenty seconds, during which time there is a noticeable hyperæmia of the conjunctival vessels. In forty seconds the entire conjunctiva is blanched almost white. This anæmia is not only present in the ocular conjunctiva, but also in the palpebral. This marked contraction of the blood vessels lasts about an hour, after which time the vessels gradually resume their normal appearance. The use of these solutions has shown no appreciable effect upon the cornea or pupil. No drying of the epithelium of the cornea like that produced by cocain, or dilation of the pupil has been observed, and no anæsthetic properties have manifested themselves. So far as could be noticed, the sympathetic nerve was not stimulated, and the palpebral fissure remained unchanged, while the tension of the eyeball was neither increased or diminished. As a result of its use cocain or holocain anæsthesia is much deeper than it would otherwise be. This was first noticed in making iridectomies. This is due, it is believed, to the depletion of the vessels and the opportunity offered the anæsthetic to penetrate the tissues.

In acute plastic iritis a more rapid and decided effect will be obtained from the use of atropin by the application of a few drops of adrenalin.

The writer has used it with success in the removal of pterygium, lipoma, chalazion, squint operations, foreign bodies under the con-

junctiva, and especially in the dilatation of the lachrymal duct. In the acute contagious or chronic catarrhal conjunctivitis he has found it to be of little or no permanent benefit.

Your attention is especially called to its application to the nose and throat. If applied to the interior of the nose it blanches the membrane almost immediately. In the examination of the naso-pharynx it will be found to be of great assistance, because it contracts the tissue of the turbinates so thoroughly as to enable one to look through the nostrils into the naso-pharynx. In profuse bleeding it is of little use, as it is rapidly washed away, unless a soaked pledget of cotton is packed into the nostril. After a few minutes the cotton may be removed and the hemorrhage will have ceased, especially those annoying hemorrhages from the septem.

In acute coryza it will relieve the swelling of the turbinates almost immediately and stop the profuse watery discharge. For temporary relief of hay fever it has no equal, and is less apt to produce irritation than the solution of the supra-renal gland.

In a case of acute laryngitis, coming under our observation, where there was a loss of voice and considerable pain during the act of deglutition, the voice was restored in twenty-four hours and the pain very materially lessened with five applications of the spray.

In acute pharyngitis and tonsilitis the relief is immediate and more lasting if its use is combined with that of cocain or eucain.

Every operation within the nasal chambers can be made bloodless, or nearly so, by the use of adrenalin, but it must not be forgotten that, within an hour thereafter, there will follow some bleeding. The bleeding will be no more than it would have been during the operation if adrenalin had not been used. If you desire to control a hemorrhage you must give the patient a solution (one part in ten thousand) to be used at home for two days. It has been my habit to apply adrenalin to the parts on a pledget of cotton, but when the parts cannot be reached by the cotton, such as the ethmoid cells, I use the spray.

In la grippe and other acute inflammations of the nasal mucosa, where the outlets to the accessory sinuses are occluded, it is valuable in relieving the swollen mucosa and thus draining the sinus. In operations affecting the ear, the writer's experience with adrenalin has been limited to the removal of polypi and granulation tissue, except in those cases where he has passed a few drops into the eustachian tubes for the purpose of facilitating the introduction of a bougie or relieving congestion.

Adrenalin is best used in combination with cocain or holocain by first applying the former, followed immediately by the cocain. I have never seen a case of cocain toxæmia when used with adrenalin.

It can be boiled and thus made sterile. It does not interfere with any other treatment which may be desirable as supplementary. Its use keeps the field of operation free from blood. As a diagnostic agent it is invaluable to the rhinologist.

It is more certain in its physiological action, because you can graduate the dose.

It is clean, being free from foreign matter, and thus the preparation is more stable and less likely to decompose.

I do not use it in the powder form, as it causes sneezing and is much more irritating than the solution.

It has been used as a heart stimulant, a few drops put into the mouth causing the heart to become regular and full.

So far as has been observed, no harm has come from its liberal use and the writer believes that it is a most valuable addition to our pharmacopia.

In conclusion, I ask your indulgence while I briefly describe two cases where adrenalin was administered internally with good effect.

Incidentally it may be said that the best way to secure good results is by absorption from the mucous membrane of the nose or mouth, and not by the stomach.

The first case to which your attention is called was one of scurvy with profuse hemorrhage from the nose, which had been previously packed, and which had continuously oozed during the twenty-four hours preceding the time when the patient was seen by the writer.

Ten drops of the solution of one part to five thousand was put into his mouth every hour until thirty drops had been absorbed, when the hemorrhage ceased and the packing was removed.

The second case was that of a pregnant woman having a profuse hemorrhage from the nasal septum of the right side. This was controlled with a Simpson's compressed cotton tampon. At the end of a week the hemorrhage occurred in the left nostril, the control of which was attempted in the same manner, but there was a continual ooze, and the patient was very weak from the loss of blood. She complained so bitterly of the pressure of the tampon that resort was had to ten drops of the solution of one part to one thousand. This was put into her nose four times a day. The hemorrhage promptly ceased,

the tampon was removed, and fearing a return of the bleeding, adrenalin was dropped into the nostril for several days. She had no more bleeding from the nose. A few weeks subsequent to this she began to bleed from the gums, and it was only by the use of adrenalin that she was kept at all comfortable. Her physician was fearful that he would have a post partum hemorrhage to deal with, and so kept her on its use until she was confined. Her labor was normal and no post partum hemorrhage followed, in fact it was noticed that the lochia was rather scanty. She made a speedy convalescence I might add that she took in all five ounces of the one to one thousand adrenalin solution during the last three weeks of her pregnancy.

DISCUSSION.

DR. W. B. JOHNSON, of Paterson.—I think the Society is very much indebted to the essayist for having presented this excellent report on the use of this new remedial agent. I hope samples will be taken by those present and experimented with. As far as I know, the gynecologists have not used this remedy very largely. It certainly is a valuable pharmaceutical acquisition, and I believe it has a place in medicine. It is so common to have this or that form of medication pressed upon us only to bring us renewed disappointment after trial, that a really good preparation is apt to be condemned in advance. I have made considerable use of the suprarenal extract and of adrenalin. I think the former is just as effective as the adrenalin, but it is dirty and unstable. The adrenalin is clean and pure, and is easily preserved, and, so far as I know, it has no deleterious effects, either constitutional or local. I think it is quite possible to prevent a very considerable number of cases of acute otitis media by simply spraying or applying locally some of the adrenalin solution to the vicinity of the Eustachian tube. When an inflammatory process has started in the middle-ear, and there is already serum present, and this accumulation is

kept in the middle-ear by an impervious condition of the Eustachian tube, if the adrenalin is applied to the vicinity of this canal it will relieve the congestion, open the canal, and possibly allow the serum to run out of the ear. I am quite sure I have seen that occur in a number of instances, in which I believe that otherwise the disease would have gone on to a suppurative otitis.

Dr. ROGERS, of Paterson.—I have read of a good many deaths from œdema of the glottis, a condition which it is very difficult to relieve promptly. I should suppose that this new remedy would prove useful here.

DR. CHARLES J. KIPP, of Newark.—I have been using adrenalin a great many times every day for many months, and I can endorse all that has been said about it by Dr. Wilson. If the bottle is once opened, however, it soon becomes cloudy. So far as I have observed, boiling has seemed to impair its efficiency to some extent. I do not see how adrenalin could affect the Eustachian tube in the manner described by Dr. Johnson, except it were injected through the whole length of this tube. In eye diseases, it seems to be chiefly a cosmetic. You can reduce the redness of the eye in a very few minutes, and by repeating the application you can make a person with a bad conjunctivitis look very well, but that is about all I can say about it. It will dilate the pupil in a case of iritis much more quickly when combined with a mydriatic than when the latter is used alone. It enables us to distinguish between conjunctivitis and iritis. In the case of the former, it will make the redness disappear entirely, but if the latter is present the deep congestion of the ciliary vessels will remain.

ESSAY

BY WILLIAM M. LESZYNSKY, M.D., NEW YORK.
CONSULTING NEUROLOGIST TO THE MANHATTAN EYE AND EAR HOSPITAL; NEUROLOGIST TO THE DEMILT DISPENSARY; THE GERMAN POLIKLINIK, ETC.

REMARKS ON NEURALGIA AND ALLIED AFFECTIONS.

The term "neuralgia" should be restricted to such cases only, in which the characteristic pain is confined to the course of a nerve, and which arises spontaneously without any apparent external cause. In other words, it is merely a symptom of disease affecting the sensory nerves, and is essentially limited to adult life.

With our present clinical and pathological knowledge, we can safely assume that all cases of so-called neuralgia are due to some alteration in the nutrition of the nerve structure itself, resulting from interference with its vascular supply.

In the remarks I am about to make, I shall endeavor only to outline some fundamental principles of diagnosis, and briefly elucidate the basis of a rational method in the management of patients suffering from the commoner forms of neuralgia frequently seen by the general practitioner, and their relation to allied conditions. It will be obviously impracticable to dwell at length upon neuralgia as it attacks the various nerves.

The character of the pain is usually paroxysmal, varying in degree, but limited to the course of the nerve and its distribution. There are at times intervals of complete freedom from pain, the duration of each attack varying according to the number and length of the paroxysms.

As pain is a subjective symptom, we can only judge of its degree by the *toute ensemble* of the individual, and its association with unmistakable physiognomical and physical expressions.

When investigating the cause of neuralgia, our chief aim should be to ascertain as far as possible, whether it arises from an affection of the nerve alone, or from an abnormal condition of the tissues or organs in immediate relation with the nerve in any part of its course, or from a morbid state of the blood and secretions generally. The

latter element is of paramount importance, and often proves to be the predisposing cause. In most cases the pain is the expression of an irritation of the sensory neurons caused by toxic substances in the blood, but this irritation in the great majority of instances does not advance to a true inflammation of the nerve. It may be traceable to autotoxæmia resulting from constipation or other disturbance in the gastro-intestinal tract, a gouty or rheumatic diathesis, a previous syphilitic infection or existent diabetes, chronic renal disease, etc., or a sequel of a recent attack of the grippe or some other infectious fever. Syphilis may also set up a gummatous periostitis in the narrow canals through which the trigeminus passes, making pressure on the nerve as well as interfering with its circulation. A similar process may involve the posterior roots of the spinal nerves as they enter the spinal canal. Overwork, constant mental strain, anxiety and worry, exposure to cold, or anything which reduces the vitality and nutrition, are more or less potent in the causation of neuralgia.

Of all the peripheral nerves, the trigeminus or its branches is most frequently affected. Next comes the sciatic nerve, then the intercostals, the lumbo-abdominal nerves, and the brachial plexus.

In trigeminal neuralgia, each division of the nerve or its branches may be independently affected, or all branches may be involved simultaneously. An irritative process in the pons, or a basal meningitis involving the sensory root of the nerve, may be the cause of severe trigeminal pain. The diagnosis of such a lesion can be made only in the presence of associated symptoms of cerebral disease.

Genuine sciatic neuralgia must be extremely rare. Under the term "Sciatica," we have been accustomed to consider these cases as being of the neuralgic type.

Clinical neurological study of such cases, however, has shown within recent years, that they are most frequently due to a mild degree of perineuritis. In the more pronounced forms of so-called sciatica, that are not secondary to organic disease of adjacent structures, the affection must be characterized as a neuritis of the sciatic nerve, for several or all of the signs of neural inflammation are present. The usual exciting cause is rheumatism, exposure to cold, and over-exertion of the lower extremities. As a symptomatic manifestation, its correct interpretation is of the greatest importance, as sciatic pain occurs in all diseases of neighboring organs that are associated with compression of the sciatic nerve. Tumors and inflammation within the pelvis, or of the

spinal meninges, vertebral caries, uterine disease, pressure of the pregnant uterus, injuries accompanying parturition, distension of the rectum with hardened fæces, aneurism of the abdominal aorta, and sarcoma of the trochanter, have each been recognized as the cause of sciatic pain. Pain in the course of both sciatic nerves should at once lead to the suspicion of organic disease of the cord or posterior roots.

In intercostal neuralgia the branches of the second to the tenth dorsal nerves are most commonly affected, and the pain is most frequently on the left side. It is common in women, and may often be attributed to the pressure of tight corsets. It is usually due to anæmia, neurasthenia, or hysteria, and often follows the infectious diseases. The thoracic organs, the breasts and the spinal column should always be examined. The presence of herpes zoster is due to acute inflammatory changes in the ganglion of the posterior nerve root producing secondary degeneration in the nerve root and the sensory fibres in the trunk of the nerve. Intercostal neuralgia can readily be differentiated from so-called "pleurodynia" which is the result of a circumscribed myositis. Periosteal syphilitic nodes on the ribs may be mistaken for intercostal neuralgia.

Brachial neuralgia involving various branches of the brachial plexus may be an accompaniment of several of the occupation neuroses. It may originate from toxic causes, or result from injury or exposure to cold. It may also be a symptom of spinal cord disease, and of aortic or subclavian aneurism. In both intercostal and brachial neuralgia the presence of atypical angina pectoris should always be considered.

Local injuries of various kinds affecting the extremities may be followed by neuralgia without any evidence of organic changes in the nerve.

Neuralgia of the lumbar plexus (lumbo-abdominal neuralgia) affects the lower part of the trunk, the pain often radiating from the lumbar region to the lower portion of the abdomen. In addition to the same general causation as other forms of neuralgia, it is often due to sexual excesses, genito-urinary disease, vertebral caries and intrapelvic disorders. It may be mistaken for the pain resulting from the passage of a renal calculus or vice versa. It is also caused by fecal impaction.

In this connection it should always be borne in mind that certain individuals with hysteria often possess painful areas in the skin over the abdomen in addition to other stigmata of the hysterical state.

When the pain involves the trunk or extremities, it must be decided

whether we are dealing with a true neuralgia or an affection of the muscles engendered by strain or exposure to cold (the so-called muscular rheumatism). An erroneous conclusion may easily arise in regard to intercostal and abdominal neuralgia. Muscular trouble can be readily recognized, however, by its limitation to a definite area, the absence of sudden exacerbations of pain, and the presence of extreme sensitiveness to pressure and movement. In addition to a careful study as to hereditary predisposition and previous illness, especially of an infectious nature, as well as the present condition of the general health, it is furthermore important to closely examine the patient for any evidence of cerebral or spinal cord disease. Should there be continuous pain, of considerable degree and rapid development, or bilateral in its distribution, organic disease should be suspected.

The pains due to alcoholism, gout and rheumatism are nearly all of toxic origin, and from time to time attack all four extremities. They result from interference with the nutrition of the peripheral sensory neuron, and frequently develop into unmistakable peripheral neuritis.

Inflammation of a nerve-trunk (*i. e.*, peripheral neuritis) is usually accompanied by pain on slight pressure over the entire course of the trunk of the nerve, causing radiation of the pain and paræsthesia to the terminal distribution. Motor weakness in the corresponding muscles, disturbance of the various forms of sensibility, and changes in the electrical reactions, may or may not be present, depending upon the degree of the neuritis. In some cases it is impossible to determine with certainty whether neuritis is present or not.

The pains of locomotor ataxia are very readily mistaken for true neuralgia, but, as a rule, are treated by the general practitioner on the basis of the patient's own diagnosis of "rheumatic pains."

The non-recognition of lumbo-abdominal neuralgia, or the misinterpretation of superficial hyperalgesic areas in the anterior abdominal wall, may lead to serious consequences.

A young lady, 28 years of age, has been under my observation since her twelfth year, suffering at one time from trigeminal neuralgia, but oftener from lumbo-abdominal neuralgia, as a result of anæmia, hysteria and lithæmia. During my absence from the city she complained of severe abdominal pain, more marked in the right iliac region, but radiating in the course of the lumbar plexus. Appendicitis or ovarian disease was suspected on account of the tenderness over the abdomen

on the right side. A well-known gynæcologist made an examination, and intimating the presence of a diseased ovary, advised an exploratory laparotomy and possible oophorectomy. A timely notification and description of my experience with the patient saved her from unnecessary mutilation.

There is hardly any region, whether it be of the skin or within the body, which is not occasionally indicated as the seat of pain by individuals suffering from hysteria. In such cases we are dealing with a pseudo-neuralgia, or a veritable psychalgia. The diffuse distribution of the pains, their dependence upon the momentary psychical condition of the patient, the rapid variation in their seat, the favorable influence of suggestion or diversion, and their frequent association with other signs of hysteria (paralysis, spasm, characteristic sensory disturbance, etc.), make the diagnosis clear.

Neurasthenics often complain of localized pains, which are also accompanied by tenderness on pressure. Transitions between neurasthenic and the hypochondrical and hysterical forms of pain occasionally arise. Prolonged observation of the patient usually leads to a correct diagnosis.

Strictly speaking, the successful medical treatment of patients with neuralgia invariably requires definiteness of purpose, systematic methods, and close attention to detail. As a rule, aside from the procedures required for the elimination or treatment of special local causes, the management of patients with trigeminal neuralgia is different from that of the trunk or extremities. Rest of mind and body, the cessation of talking and mastication, and the administration of suitable and abundant finely minced or fluid nourishment is always essential. The use of irritating or anodyne liniments, plasters, etc., on the face is usually of very little benefit, and is liable to cause troublesome conjunctival irritation, if not worse.

The daily application of the galvanic current and the judicious use of certain drugs, constitute the best plan of special treatment.

The majority of the patients who consult us come for the relief of the most prominent or troublesome symptom that interferes with their their vocation. Although pain is the predominating element in the present case, the physician who indiscriminately resorts to the continual and persistent administration of opiates, without seeking for additional symptoms and indications, deserves al the condemnation to which his carelessness or neglect justly

entitles him. Thus, a patient who complained of severe trigeminal pain, had been treated for several weeks with narcotic drugs without relief. Many other signs were found, indicating a gummatous lesion at the base of the brain involving not only the fifth nerve, but also the sixth and seventh nerves. Under active antisyphilitic treatment the pain disappeared rapidly within one week.

In another instance, the narration of which will aptly illustrate this point, and thus carry its own lesson, is the following: Miss J., 27 years of age. Trigeminal neuralgia of two years duration. No history of rheumatism, syphilis, traumatism or refrigeration to account for her condition. Six teeth had been extracted and various anodynes given without relief. She was a very much constipated neurasthenic, with a pronounced stomatitis. Rest, suitable diet, careful local treatment of the mouth, regulation of the action of the bowels, the daily application of the galvanic current, and general tonic treatment, resulted in complete recovery at the end of three months. A detailed history of this case would clearly demonstrate the advantage of systematic treatment. Such prompt relief without the use of anodyne drugs is not at all unusual when local measures are supplemented by judicious management of the general health. This young woman had previously received no relief from symptomatic remedies, and her physician had consequently advised surgical intervention.

For neuralgia affecting the extremities, rest of the painful limb (by splint and bandage in some cases), the hot moist pack, massage, galvanism, the static induced current, counter-irritant or anodyne liniments, cauterization or blistering over the vertebræ in the neighborhood of the corresponding posterior roots, in addition to the use of special drugs, are the most satisfactory means at our command.

In the early period of acute sciatica, after thoroughly emptying the lower bowel, a suppository containing from one-half to one grain of extract of opium should be administered, and repeated if necessary. In some cases of sciatica, and also of lumbo-abdominal neuralgia, continuous rectal and colonic irrigation with hot water for thirty or forty minutes often gives great relief.

The drugs that I have found most serviceable in neuralgia, are the various preparations of opium and its alkaloids; phenacetin; acetanilid, in combination with small doses of caffein; cannabis indica; nitroglycerine, and aconitine. The so-called anti-rheumatic, anti-malarial and anti-syphilitic remedies have their special sphere of usefulness.

Phosphorus and the glycero-phosphates, strychnine, quinine, arsenic, iron, cod-liver oil, etc., are all of value in improving the nutrition of the nerve centres.

It is hardly necessary to say, that some judgment and discretion are always required in the selection of analgesic drugs. In their use, we must be guided by the vital signs of the patient, particularly relating to the condition of the heart. If the circumstances warrant it, it is better to resort at first to local measures and constitutional treatment.

The danger of developing the opium habit in patients suffering from neuralgia, although greatly exaggerated, should always be borne in mind. In the majority of instances in which this occurs, it is the physician and not the patient who is deserving of censure. Neither the patient nor the family should be taught the use of the hypodermic syringe. If time permitted, many cases of morphinism could be related from personal observation, whose origin has been traced to the physician's carelessness or the druggist's lack of conscience.

Before concluding, let me sound a note of warning against the useless extraction of healthy teeth in trigeminal neuralgia, and unwarranted haste in advising surgical operation upon painful nerves. Nerve section should never be considered seriously, until suitable, thorough, and persistent systematic treatment has proved ineffectual.

It will thus be seen, that the diagnosis of neuralgia is made from the character of the pain, and by a methodical process of exclusion of any local disease that may induce "symptomatic" pain in the course of the nerve, either from direct pressure or irritation. Its successful management, therefore, requires the combined application of a comprehensive knoweldge of general medicine, and a careful physical examination in every case. Quite frequently, this must be supplemented by the aid of specialists in the various branches of medicine, for the purpose of accurately determining its causation or assisting in its relief.

ESSAY.

BY DANIEL STROCK, M.D., CAMDEN, N. J.

A PLEA FOR THE PHYSICIAN ON THE WITNESS STAND.

It was Hippocrates about 2,500 years ago, who put in concrete form the rules of medical practice that had been observed, no doubt even for ages before his time, when he formulated the oath that he would not divulge that "which ought not to be spoken of abroad," and "reckoning that all such should be kept secret" which he had seen or heard while engaged in the discharge of his professional duties.

From that day to this the members of the medical profession of civilized countries have preserved inviolate the secrets learned in the performance of their duties to the sick, and have voluntarily, with the instinct of true manhood, guarded well the trusts confided to their keeping. Only exceptionally does it occur that the confidence of the patient is abused; and in the majority of instances when this does happen, it is the result of mistaken judgment, rather than a voluntarily dishonorable act.

It is in accordance with the ethics of our profession, and it is not open to debate, that a physician must keep sacred the confidence of his patients. To do otherwise renders his conduct actionable at law. But, to the glory of medical men, it can be said, it is not the restraining fear of the law that prevents the betrayal of confidences, neither is it alone the obligation imposed by the code of medical ethics; but rather must we credit it to the innate sense of honor that is so conspicuous a component of the character of the true physician. To keep a patient's secret only because of a fear of the legal consequences, or because ethical rules command it, is reducing individual honor to a very low estimate; and, happily, we can believe that the above-mentioned factors exert an unimportant influence upon the conduct of the medical profession in this respect.

While the general public look with reproach upon the physician who has disclosed the nature and cause of a patient's illness, yet the

fact should be noted that the career of the medical adviser is a prolonged struggle with this same public, which is constantly engaged, with artfully constructed questions, in an effort to learn the secrets of its neighbor's sick-room; and when we consider the various subterfuges resorted to and the many adroit questions asked, it is really a surprise, not that physicians are occasionally indiscrete in their utterances, but that they, after all, reveal so little. But it is not the voluntary aspect of this subject that I wish to address particularly to your attention—that must be left to every man and his conscience, he being aware of the legal, professional and social penalties involved.

As a profession, we are deeply concerned in the possible involuntary or compulsory extraction of our patient's secret, and it will not be unprofitable, I trust, if we inquire how it is with us in this respect. As we are all aware, the only position in which a member of the medical profession can be placed, that involves the compulsory revelation of the confidences of a patient, is the witness-chair, because the matter of such confidences are, at times, the subject of investigation by judicial tribunals. Only there is there authority for compelling him to disclose what would otherwise remain hidden forever, so far as the physician's voluntary conduct is concerned.

In the case of a legal adviser, he is positively prohibited by law from giving any evidence as to facts and communications placed into his possession by his client. Even the clerk, interpreter, or agent of such legal adviser is placed in the same relation to the client as is the attorney. Thus, the privilege is not personal to the attorney, but is a rule of law for the protection of the client.

I cannot contemplate this phase of my subject without feeling that it is manifestly unfair that the secrets imparted to a medical adviser, the knowledge of which may be essential to conserve the health, or possibly save the life of the individual, and imparted at a time when the contingency that seeks to make them public was unknown to both patient and physician—it is unfair that such secrets should be forcibly extracted and publicly announced. Not only is it unfair to the patient, but equally unjust to the physician to be compelled to make revelations of confidences that he considers a sacred charge, which he would never voluntarily reveal, and only does it on the witness-stand under judicial stress that wrings his soul with anguish and humiliation.

Fortunately for the medical profession of the United States, this view of the matter has been accepted in various States and Territories,

and there is reason to believe, in the absence of special enactment, that from time to time various presiding judges have ruled to an extreme degree, if such an expression will be permitted, in endeavoring to exclude testimony that involved the betrayal of a patient's confidences.

In England, under the common law, from which our law was originally derived, medical men are not under legal protection, and can be compelled to answer questions of this character; and it is assumed that in the various states of this country the same rule of evidence obtains, in the absence of statutes to the contrary.

It is not necessary, for the purposes of this paper, that a critical exposition should be given of the statutes, where they exist, or the decisions that have from time to time been rendered by judges in this country bearing upon this subject of confidential communications of patients to physicians.

In general terms it may be stated that the law recognizes that the secret is the patient's, and the physician is the custodian thereof. Any reason that a special ruling may involve, excusing a physician from giving certain testimony, is not an implied expression of sympathy for the physician who is placed in the unpleasant position of revealing a patient's confidences, but is based upon the high ground of public policy, "because greater mischiefs would probably result from requiring or permitting its admission than from wholly rejecting it."

In fact, in various countries and in about half of the states and territories of this country, very little consideration is given to the feelings of the medical witness; and the obligations of the code of ethics may be brushed aside with scant courtesy, thus teaching us that our self-assumed vows to respect our patients' secrets have no legal status in a court of justice, as was implied by an expression of Mr. Justice Hawkins, who presided at the trial of the cause of Kitson *vs.* Playfair in England, in 1896, this being an action to recover damages for libel and slander, the physician having made statements concerning what he alleged he had discovered upon examination of the plaintiff. In the course of the trial of this suit, Mr. Justice Hawkins called attention to the lack of any "authority in the courts of law for the code of professional rules as to confidentiality which medical men have constructed for themselves." We must infer from this that in courts in which the rules of the common law obtain, it would be useless for the medical witness to decline to answer questions on the ground that the

code of medical ethics sealed his lips. The code of ethics is a moral and business guide for the physician, but not a legal enactment, and its provisions do not necessarily influence a judicial tribunal.

As the law obtains in New Jersey, there is nothing to prevent the extraction of any testimony from a physician that may be desired. If the judge decides that the testimony is pertinent, then the physician must respond to the questions that will reveal to the public what hitherto was known only to the patient and himself.

But it is yet a matter of doubt, in this state, what the result would be if the medical witness declined to answer questions pertaining to the secrets of a patient; as, so far as I have been enabled to learn, the matter has never been judicially tested. The question might be withdrawn by the one propounding it; the witness might be punished for contempt, if he persisted in the refusal to respond, or the judge might deem the information a privileged communication, and excuse the witness from revealing it. But, it is well for us to reflect, that, irrespective of what might occur, there is nothing to prevent the most unpleasant consequences resulting to the witness with obstinacy sufficient to cause him to persist in his refusal to respond to questions that the law, as it now stands, says he must answer. Unquestionably it would be unsafe for any medical witness to feel that he had any justification in withholding the information sought, upon the self-assumption that it was improper to reveal knowledge obtained in his professional character. It is for the judge, not the witness, to decide whether or not the information partakes of the characteristics of a privileged communication. Aside from these considerations, we must remember that the supreme test of a law-abiding citizen is his conduct upon the witness stand, engaged in the performance of an unpleasant duty to the state. He ceases to be law-abiding if he places himself in a position of antagonism to the requirements of the law, and immediately becomes liable to the penalties that are provided for such infraction. Therefore, the statement can be accepted as correct, that in this state the physician on the witness-stand is at the mercy of the attorneys, and the judge is powerless to shield him, no matter how earnestly inclined to do so, except to exclude the evidence on the broad ground that its admission was inexpedient in the interests of public morality, or that it was not pertinent.

But the probability that such a saving decision will be rendered is very remote. This has been forcibly brought to the attention of the

physicians of Connecticut, where recently a judge of the superior court ruled that a physician, subpœnaed as a witness, must testify to what he regards as confidential or privileged communications between himself and his patient. This ruling was based npon the common law procedure, and is such as would be given by any judge in this state at the present time.

There is not a member of this society but what is the custodian of secrets that would cause him to burn with shame if compelled to reveal them before a judicial tribunal; and yet, in our present defenseless condition, no one knows how soon we may be called upon to occupy this humiliating position.

As I have stated above, about half of the states and territories of the United States have statutes exempting the physician from giving testimony of matters revealed by the patient or observed by him in his professional capacity. The laws of these states are not uniform, some containing provisions that are absent in others. The majority exclude such testimony in civil cases only, while in some of the states as, for instance, New York, the law is held to be operative in criminal cases also. In some states it is provided that such testimony cannot be required if the patient or family objects; in at least one state it has been decided that, even if the patient gave permission, still, under the law, the physician could not reveal the patient's confidences.

As a sample of these laws, I will quote the statutes of two adjoining states. The Pennsylvania act, which was approved June, 1895, provides "that no person authorized to practice physic or surgery shall be allowed, in any civil case, to disclose any information which he may have acquired in attending any patient in a professional capacity, and which was necessary to enable him to act in that capacity, which shall tend to blacken the character of the patient, without his consent."

A less ambiguous law than this is that of New York, which says: "No person duly authorized to practice physic or surgery shall be allowed to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon."

It will be observed that in the Pennsylvania law the restriction applies to civil cases only, but in the New York statute no specific mention is made of either civil or criminal cases; it simply says the

medical witness shall not be allowed to disclose any information he may have acquired in the course of his professional intercourse with such patient.

Under the practice of this law, the physician, if he so desires, is protected on the witness stand. But, at the same time, it does not prevent him from voluntarily, or through counsel, involuntarily, waiving the provisions of the law, as was recently decided by the Court of Errors and Appeals of New York where, in an action against an executor, the latter called his testator's physician as a witness and asked him a question calling for a disclosure of professional information. The court held that it is difficult to imagine a clearer act of waiver than for the legal representatives of a deceased patient to call his former physician to the stand, and ask him to disclose professional information falling within the provisions of the Code of Civil Procedure of that state.

While the law of certain states protects a physician on the witness-stand who refuses to impart professional secrets—and in some states he is not required to do so under any circumstances—it will not protect him on cross examination if, in the direct examination he has given facts concerning a patient's illness. In other words, if the physician, in the direct examination, revealed how seriously ill a patient was, and deduced therefrom an opinion as to the mental or physical state, stopping short of an explanation of the cause of such disease, he can, on cross-examination, be compelled to state plainly the true condition of the patient, and the immediate or remote cause thereof.

Very many of the propositions that arise in the contemplation of this subject are beyond the scope of this paper and will not be considered, because unnecessary and, perhaps, unprofitable. Enough has been said to indicate that a mistaken sense of security is prevalent in the medical profession of our own and other states in regard to the matter of forcible revelation of a patient's secret. To the man who would feel that he had dishonored himself and his colleagues, if he involuntarily abused the confidences of his patients, the contemplation of the possible contingency arising when he will be compelled to make such disclosures in a public manner is revolting, indeed. And yet, in those states in which the common law has not been altered by statute, no member of the profession knows how soon he may be called upon to pass through this mortifying and humiliating ordeal. The law is inexorable in its search for evidence along per-

missible lines, and does not consider men or callings. There is reason to believe that the judiciary, as a body, would be pleased if physicians were excused from giving testimony bearing upon their confidential relations with patients; for it is evident that in some instances judges have felt shocked while compelled, under the law, to admit evidence that they believed could serve no good public purpose. It is, no doubt, chargeable to the apathy of the profession, in this and certain other states, that there is an absence of statutes excusing the physician from revealing his patient's secrets in court.

This paper is designed to direct your attention to this important matter, in the hope that a sentiment may be fostered looking to a correction of the common law rule as applied to confidential communications made by patients to physicians; and as this can only be done by legislative enactment, it, therefore, is incumbent upon us, if such safeguard is desired, to take steps to secure the necessary legislation, as we cannot expect legislators, of their own volition, to assume the initiative in this matter. New Jersey is one of the oldest states in the Union, and to-day its physicians have not the protection, in this respect, that is afforded in some of the territories.

The writer believes that the time has arrived when the medical profession of this state should ask the legislature to throw around the physician on the witness stand such protection as shall spare him the humiliation of revealing that which he learned in the privacy of the bed chamber or consulting room, thereby preventing the distress that must inevitably result to individuals or families, and perhaps avoid the advertisement of the shame of an innocent victim.

DISCUSSION.

DR. THOMAS W. HARVEY, of Orange.—I certainly think this is a most important question, and I am very glad that it has been so ably presented to us. There is a phase of this subject which comes to all of us very frequently, and that is the matter of privileged communications made in connection with the filling out of the proofs of death for insurance companies. Nearly all of these blanks ask regarding the diseases for which you have treated the decedent during his lifetime. In one

instance if I had filled out such a blank it would have disclosed the fact that my former patient had had syphilis, and I refused to do it. The insurance company in this instance happened to be a foreign company, and I took the position that this was a privileged communication. I do not know whether action could have been taken under our New Jersey law to compel me to answer such a question. I feel that there is here a very important phase of this question. Our New Jersey insurance companies ask for full information on such matters, asking even for the dates of attendance. I have raised the question regarding the waiver appearing in the blanks of some insurance companies regarding allowing the physician to testify in regard to his patient. This waiver is all right as regards that particular occasion, *i. e.*, when the person applies for insurance, but it does not apply after the death of the individual.

DR. CHAVANNE, of Salem.—I would direct your attention, also, to the inaccuracy and the false statements of the applicants for insurance. Because of this we are often obliged to evade the questions put to us. Another feature has been brought out in the essay, *i. e.*, the laws which might be enacted in favor of the physician. It has been understood, and is urged by many organizations, that it is profitable to any institution having any relation whatever with the law to use some means by which they can keep able and efficient individuals before the State and national legislature. I think it becomes this organization to consider that matter well. If we, as physicians, have lost that protection from the law which others possess, it is because we are derelict in not having proper representatives before the legislature. If we possessed the faculty of obtaining favors from politicians, we would have better protection, I am sure, and would not have to be so

reticent before the courts. I believe that it behooves us at once to see that our organization has representation at Trenton. If it is necessary, let us appropriate money for the purpose, and pay the expenses of the committee. We should have a carefully selected legislative committee, men who are fitted to meet legislators and who are able to properly represent this society before the legislature.

ESSAY.

BY D. A. CURRIE, M.D., ENGLEWOOD, N. J.

MODERN TREATMENT OF GONORRHŒA.

The first step in the treatment of a case of supposed gonorrhœa is to take a culture and find out whether we have to deal with a germ or a local irritation of the urethra. A saturated solution of methylene blue in alcohol is a very efficacious method of staining the gonococci.

Pathology has established the base of operations to destroy the gonococci if we expect to make a quick and at the same time a permanent cure, and until the gonococci have been destroyed there will be no cure.

The gonococcus is a frail exotic, and very difficult to be kept alive outside of the human body. Heat will kill it just as readily as cold. Therefore, the disease is rarely, if ever, transmitted except in the regular way. It can be transmitted by means of moist towels, basins, fingernails, or the introduction of non-sterile instruments or pessaries, either male or female, as the case may be. Above 100° F. four-tenths of the germs will not grow at all, and at a temperature of 113° F. die or become weakened to such a degree that infection ceases to be a factor. A temperature of 140° F. will destroy them in twenty-five minutes.

What method of treatment will cure venereal rheumatism better than hot bathing of the diseased joints or a trip to the hot springs? The cure is no doubt due to the high temperature - the hotter the spring the more popular for that ailment.

As students of medicine we were taught to prescribe certain drugs, both externally and internally, for a patient who presented himself for treatment, and had certain local signs of a disease, the symptoms of which are too well known to most of us to need a minute or detailed description, at the same time we were cautioned to collect our fee, which was the principal part of the proceeding. We did not look for gonococci, or suggest that a rapid cure would be the result of the treatment recommended. In fact, we did not think of such a thing until an interval of

two or three weeks, or perhaps months, had elapsed, when the case was pronounced cured, but as often resulted in no cure at all, even at that prolonged period. Relapses would occur after weeks or months without any exposure whatever, and the poor innocent victim was blamed for contracting another attack, and no matter how much he might plead and affirm his purity, he was nevertheless living under a cloud of suspicion of having recontracted the new outbreak. Were it not for microscopical investigations of today we should not have the confidence of our patients any more than in former years.

I have found gonococci still in existence after the cases had been pronounced cured, so that the patient was very well satisfied with the result, excepting for the discharge of a few drops of a suspicious looking substance exuding from the prepuce every morning. It was in this, the gonococci were found to be still existing in a state of activity, with the virulence weakened, but ready to take on new life when planted on new soil. Therefore, when the question is asked, "Doctor, may I get married now?" or "May I go to bed like an honest man should?" in case he is a married man, I say, "Certainly not, until you are perfectly free from all germs of the disease."

The new International Text Book of Surgery states that "cases still last from three to seven weeks." Keys & Chetwood state that "two weeks may be considered short, and four not excessively long."

The first thing to be found out in all urethral discharges of a suspicious nature is, *do gonococci exist.* If so, proceed with some favorite or well known germicide to destroy the bacilli, at the same time don't guarantee, as many writers and authorities do, that your case can be cured in three days. The writer has not found the germ of gonococci so easily destroyed, even with the self-same appliances and remedies as those used by the above-named authorities, and every detail carried out most syetematically and accurately. My cases have been examined so that a differential diagnosis was made microscopically, to determine whether or not gonococci did exist at the commencement, and also at the finish, and in a number none were found for a period of a week, but from fresh cultures taken upon the seventh to the tenth day, gonococci were found to exist. An injection of 2% solution of protargol will cause an entire disappearance of the germs from the urethral secretion for twenty-four to thirty-six hours, therefore, I have never found it necessary to use protargol oftener than once in twenty-four hours. I have found much depends upon the kind of

treatment employed; the vigor of the patient has much to do with the rapidity of the cure. Some patients will recover under the very simplest sort of treatment—an infusion of either green or black tea, and not very strong either, it is said, will completely cure a case of supposed gonorrhœa. This is a favorite remedy among the negroes in the South.

The sooner the diagnosis is determined, and proper treatment commenced, the sooner will a cure be effected.

The proper method of irrigating the urethra is with the aid of a fountain syringe, using as a soothing lotion, hot or cold, according to the fancy of the patient, a sol. of permanganate 1 to 3,000 or 4,000, at a temperature of 105° to 115°, or even 120° If the slightest irritation be produced, lessen or increase the temperature; also lessen the strength of the solution, or perhaps discontinue it entirely and use decinormal salt solution or sol. boric acid (saturated), but use it warm.

Very frequently a patient suffering from inflammation of the urethra preceding an acute attack of gonorrhœa, is sick enough to remain in his apartment and be visited by his physician daily until a plan of treatment has been arrived at that will be agreeable and perfectly salutary to the patient.

Many times I have been surprised to learn that a member of a family that I have attended for many years will call at my office informing me that he got caught some two or three months, or perhaps a year ago, and yet not well. The general excuse is that "I felt ashamed and preferred to go to a stranger, 'a regular man.'"

One of the principal cautions I have to give when examining a primary case is to be extremely gentle in every part of the manipulation of the affected organ, avoid all rough handling, such as squeezing, pulling, forced injections trying to drive the fluid the whole length of the canal, etc., at the same time, caution that the most scrupulous cleanliness must be observed throughout the whole management of the case, together with a well regulated diet, free from acids, rich soups, beer, wine, salad dressings, mustard, etc. In using the syringe, the tip or nozzle must be carefully sterilized at least once in twenty-four hours.

Very many men do not know how to use a syringe, in fact have never had one in their hands before, therefore, how absurd to write a prescription for a lotion and a urethral male syringe, and instruct him

to inject the urethra three times a day without any regard to temperature or amount of force to be used, and to come in and see you again when it is used up. If you write a prescription, he will have it renewed and not come to see you for a month or more. The remedy for this is, to have an understanding with your druggist and omit to number the prescription. Of course, if the injection hurts or smarts very much—and it is quite sure to do both—the patient will wash out just as little of the urethral canal as possible—perhaps an inch, unless he is properly instructed how to proceed before he leaves your office. Plain *hot* water has an irritating effect upon the inflamed mucous membrane. Soldiers are very ingenious in using the injection the wrong way, so as to remain in the hospital as long as possible, thereby avoiding drill and guard duty.

It is impossible for very many of our patients to use the fountain syringe, and at the same time keep the solution warm, or, in fact, to use one at all in his own house. He can use one at the doctor's office night and morning; he can also use a glass bottle irrigator, which can be heated very readily by immersing in hot water until the proper temperature is reached; or use a tin irrigator, which can be heated over a lamp For a nozzle, I prefer a small glass tube.

Protargol should be used at a strength one-half to two per cent. and not oftener than once a day to commence with.

The use of instruments is very unwise where there is much scalding—the use of alkalies will be much more beneficial; also the oleo Resins.

When the posterior part of the urethra is affected, protargol of a strength of one per cent. and from one-half to a pint used at a douche, to be gradually diminished and the interval gradually lengthened to every second or third day until once a week will be enough to entirely destroy the germs. After all germs have disappeared, mild astringent solutions of zinc, lead or copper are very useful for a few days. Urinary antiseptics are of much value where urethral cystitis exists. Salol in full doses, with light diet; or what will be better, milk diet. The practice of irrigation of the bladder from the urethra with antiseptic solutions are as a rule painful and irritating and should be avoided unless administered by the physician himself. Forcible irrigation will do much harm, causing infection of the urethra, which, if produced, is best treated by hot applications, turkish baths, cathartics, and counter irritation.

When the spermatic cord becomes involved, the testicles should at once be suspended to relieve the weight, all treatment of the urethra discontinued, the recumbent position assumed and maintained, and the ice bag applied for the first thirty-six hours, when, if relief is not obtained, a recourse should be had to warm fomentations; internally, a thorough calomel purge, to be followed by the Iodide.

To continue a discussion of this subject further, would necessitate changing the title of the paper. The detail of the complications of the ~~above-named~~ disease will afford the subject of a subsequent paper, as I have obtained permission (purely from a sense of duty) to present these few remarks, which touch on a subject that has been allowed, to a very great extent, to fall into the hands of quacks and empirics who first intimidate and bully their victims, and then proceed to fleece and, often, to blackmail them.

Much conjugal misery and unhappiness at home and abroad can be avoided if the family physician will have the caution to have cultures of his cases taken and examined before pronouncing a positive diagnosis where there is merely a suspicion or a doubt, especially so if the patient be a female.

Many cases of supposed catarrh of the neck of the uterus, vaginal irritation, salpingitis and the like would be avoided and much mental and physical anguish and suffering obviated, if specimens were examined microscopically before marriage, and also with the married who may have been unfortunate enough to contract a case, as I have before mentioned. I feel that this is one of the most neglected and at the same time one of the most important subjects in the whole category of diseases to which humanity is liable, and in order that it may be listed as a legitimate disease, we must one and all of us make a combined effort and treat the disease as any and all infectious diseases should be treated, in an intelligent and conscientious manner.

DISCUSSION.

DR. E. B. SILVERS, of Rahway.—Mr. President and gentlemen, I feel forry for *ourselves*. Until the noon prior to the day I came here I was not aware that I was to open this discussion. My careful home companion asked me if I had looked over the programme. When I replied in the negative, she remarked that I had better, as I was

put down to discuss Dr. Currie's paper, and asked if I was conversant with the subject (of which subject she was ignorant). I told her rather tersely that I had no *personal practical* knowledge of the subject, emphasizing the language. The reply came tartly back, "Well, it is time that you *personally* and *practically* should know, or how can you creditably talk about it?" Well, I was in a sad dilemma—no cases on hand, time of incubation too short—so I thought I would take my chances to know more about it at Deal Beach.

The fact that this subject has been selected by Dr. Currie, and that he has selected both Dr. Lampson and myself to discuss it, I hope will not be taken as anything against us. Dr. Valentine quotes patients of this class as saying that they have "only the clap," though it might be the starting point of grave disease in the man, his wife, or his children. I tell you, gentlemen, that we do not fairly appreciate the moral effect of laughing at a patient who comes to us with "only a clap." I have been a professional man for many years, and have seen many cases, and the ultimate effects of such conduct on the part of the physician have been so serious that I feel we should give this subject more serious attention and should stamp out impiricism, which now has a monopoly of this treatment.

When the disease first commences it is confined to the anterior part of the canal, but in a very few hours the gonococci multiply to thousands. When they pass the shut-off then comes the trouble. If they succeed in passing this point and entering the posterior portion of the canal and the bladder, and the latter has some abrasion, the results are likely to be very serious. If absorbed into the general system, these germs may cause very grave conditions. So-called rheumatism is one of these

sequelæ, but there is no telling where this infectious process may end. It may go to the heart or to the brain, and result fatally. As far as the treatment is concerned, the doctor very justly says in his paper that we must destroy the microbe, and then combat the inflammation. It has been my lot to see a great many strictures caused by this disease, and I wish to say right here, that in all suitable strictures, where there is no inflammation and where the strictures are not spasmodic, but is simply an induration, there is nothing to beat electrolysis. I stand up here to defend electrolysis and to say that all of the odium thrown upon it is because the operators have not selected the right kind of cases. It has been my lot to know of a number of very satisfactory cures. Now, Dr. Currie is to give us another paper. I wish to indorse what he has said about the treatment. I may add that mercurol is now being vaunted as a good destroyer of the gonococcus, and I have found injections of sulphate of zinc a very reliable local curative agent.

Dr. M. LAMPSON, of Jersey City: I have no fear of any questions arising at home from my discussing this paper, for I settled the matter before coming away. The mere fact that the Medical Society of New Jersey has called for the discussion of gonorrhœa instead of hysterectomy or some other surgical procedure is itself a significant commentary. The whole subject is disagreeable to the minds of many people, nevertheless this is a disease which may be said to be always with us. The changed views regarding this disease which have obtained during the last thirty years or more afford evidence of the progress of medicine; and perhaps no other disease shows this progress more markedly. In military practice thirty-five years ago we were practically limited to the use of the old balsam mixture and an injection. Since that time

the biologists have shown us what the disease really is, and in common with the great progress made in medicine generally, we have more knowledge of gonorrhœa. The late Dr. Noeggerath, of Brooklyn, astonished the medical profession some twenty-five years ago by saying that he believed more cases of female pelvic diseases were caused by gonorrhœa than by anything else, in fact, he attributed almost all woman's disorders to that disease. We were shocked at this statement then, but since that time investigation has shown that he was not very far out of the way. It has been remarked that of the two diseases, syphilis and gonorrhœa, the latter kills vastly more people than the former, and this may be true. The main complications of gonorrhœa in the female are the inflammatory troubles of the tubes, peritoneal infections, and in the male, strictures and their sequelæ. With regard to treatment I should say that I have probably operated upon 100 cases of stricture in the last twenty-five years, and I do not think there was a single one of these that was not the result of gonorrhœa.

DR. CHAVANNE, of Salem: I was just thinking that the infection of gonorrhœa was like a bushwack war—new territories to invade. The many treatments suggested for gonorrhœa and their sequelæ it would be impossible for us all to practice. A good vigilance committee or a thoroughly organized police reduces the edge of the bushwack, and I have found that the forces that are most effective are those which travel the fastest. Cold steel has done more in a bushwack war, and in my experience cold steel has done more for the treatment of gonorrhœa than any other treatment. I believe the germ of this infection can be controlled quite readily. Heat will destroy it, for hot water and soap will prevent carrying the contagion to others. Inflammation produces a

serum upon which the gonococci live and multiply; reduce that and you at once reduce the trouble. The laity often tells us that they would just as leave have a clap as a cold. If we apply an astringent locally we at once reduce the outflow of the culture medium of the gonococcus, and in this way eventually check the disease. But we are obliged to take care of the sequelæ. The sufferer will usually tell us that the stronger the astringent the more quickly are they relieved, and hence they willingly submit to the use of the strongest applications from their friends or from quacks. A druggist once said to me: "Doctor, you are too scientific; these patients want relief at once. When the sequelæ come they will go to you for treatment." This is certainly true; these patients usually get immediate relief in any way they can, and do not come to the physician until the sequelæ appear or symptoms develop which alarm the patient. These persons have taken tubs of Warner's Kidney Cure, perhaps, but when the urine becomes milky they get scared and bring a specimen of the urine to the physician. In my experience, and I have had quite a little because of my location in the town, the disease is readily cured if the patient will continue the treatment. Give some of the essential oils which will protect the mucous tract. I had under observation a marked case of what seemed to me to be gonorrhœa. She left me and went to another physician. Sometime afterwards I was called in to treat her boy of four years, and found a thick greenish mass exuding from the glands. It proved to be gonorrhœa, contracted from the mother with whom he slept, and who had become filthy because of her neglect of treatment. It was cured by sounding the tract, and using proper internal remedies. I repeat, then, do not be afraid to make use of cold steel in this affection.

ESSAY.

BY W. BLAIR STEWART, A.M., M.D., ATLANTIC CITY, N J.

THE TREATMENT OF NEURASTHENIA.

Make sure of your diagnosis. Eliminate all possibility of true hysteria and insanity. Abandon the old theory that neurasthenia is entirely a condition of mind—not a "devilish manifestation." Recognize it as a distinct functional condition dependent upon some particular cause which produces spinal and central irritation. Search for this cause. Make an exhaustive study of each case, and if the cause is removable proceed at once to remove it. The earlier treatment is instituted the greater and more rapid the chances for complete recovery. Old, prolonged and fixed cases gradually drift into true organic conditions, are very obstinate, and not infrequently intractable.

Unless you gain the full confidence of your patient at the first visit your success will be endangered. Do not make your first examination and give an opinion until you have full time to go into every detail and make a thorough physical, mental, and antecedent study of the case. Do not speak doubtfully. Never tell your patient anything you cannot substantiate if questioned. Make your examination in the presence of a second party, and always insist upon the removal of all unnecessary clothing. Never pass trivially over the patient's imaginary troubles, but give free attention to them on your first visit. Do not use the method of trying to shame away symptoms. Be sympathetic and attentive, but always firm, positive and strictly methodical. Do not allow yourself to show irritation by the patient's repetitions and questions,

Psychic Phenomena.—Take time to sit by your patient and reassure in positive terms. Ten minutes quiet conversation will do much to relieve the worry, excitement, morbid fears and ideas, and mental depression. These talks must be given with the same regularity as medicine, and each visit will frequently show the mental effects produced by the former. You must begin a system of mental education and start the mind moving along proper channels, and persist day by

day until the power of your personality overbalances that of your patient. Teach him to think, move, eat, sleep, exercise and talk *by absolute rules*, and see to it that you have selected a nurse capable and willing to *literally* follow directions. This is not faith cure, but all this must be done preliminary to and accompanying your other methods of treatment.* Conversation must not be allowed to continue along morbid and depressing lines Depressing literature must be absolutely withheld. It is unwise to place the daily papers in the patient's hands if the case is at all marked, and great discrimination must be exercised in things read, letters received and conversation.

Causative Treatment.—One severe typical case in practice was evidently due to the nervous irritation produced by the pressure of impacted ear wax on a perforated and inflamed ear drum head. Improvement was progressive from the moment of its removal, and the patient is now perfectly well. Malaria, on the borders of the Black Sea, is said to produce many cases, and cures are made by hypodermic injections or bi-sulphate of quinine. Operation on the ovaries, uterus and genital tract have cured many cases. Lithemia is a very decided causative factor, and by treating it medicinally and dietetically improvement often results. Many are anemic, even though this class usually looks hearty and well nourished. My own experience points largely to dietetic causes, intestinal indigestion, autointoxication, and constipation. Many are habituated to sweets, pastries, desserts, hot breads, and strong tea or coffee. They bolt their food half masticated and wash it down with water or some drink. Make it your invariable rule to look to diet and digestion. Forbid all sweets, fried foods, rich dressings, desserts, and strong tea and coffee. Specify the exact duration of every meal, and stipulate the amount of mastication for different foods. Do not allow liquids to be taken during the act of mastication. Adjust the diet to the case—a diabetic, rheumatic, gouty, etc. Neurasthenic subjects assimilate their food poorly, and many are flabby-skinned, fair, and apparently healthy to outward appearances. There is either a picky appetite or a greatly exaggerated one. One patient under care ate enough for three healthy adults, and yet did not assimilate the food and was constantly losing flesh. Constipation must be combatted in a most vigorous manner. Do not make your patients habitual drug users for this trouble, but resort to other means—massage, diet, occasional rectal injections, suppositories, etc.

Autoinfection from constipation will always aggravate nervous symptoms. Menstrual disorders and the menopause are frequent causes in women—sexual disorders in men. Your greatest trouble will come from sexual perverts. Society rounders and the duties exacted of young women in the drawing and ball room are prolific sources of neurasthenia. Railway accidents, surgical injuries and shock, often produce surgical neurasthenia of the hardest type to meet. Heredity also plays its part. These are but few of the many causes demanding treatment for permanent relief, but the resultant nerve depression will require other and prolonged methods before the neurasthenic impressions can be eradicated.

Physical Methods.—Rest and exercise. The average neurasthenic rarely knows when to stop—some never know when to start. When you have determined the cause of the trouble and have made a thorough physical and mental examination, decide whether the patient must take the extreme rest treatment (the Wier Mitchell method), modified rest, or the exercise course. If your patient is a very nervous society woman, physically and mentally depressed, worn out by over-exertion and social duties, the absolute rest cure is best. Briefly stated, this consists of absolute rest in bed from four to six weeks, the patient not even exerting herself to turn in bed, feed herself, or get up for the calls of nature. She must be assisted in every move. No personal reading, correspondence or visitors. A course of massage, electricity, bathing and nourishing. Very few men stand this method. Most cases do best on the modified rest-cure. They must retire between 9 and 10 P. M., and stay in bed at least 10 hours. Give a glass of milk before getting up. Follow this by light massage or a cool bath and rub. Rest an hour. Take breakfast and rest again for at least an hour. Walk or go out in a rolling chair for one to three hours according to indications. A glass of bouillon or milk and a rest before the noon meal and a rest after it. About two and one-half hours after dinner give light positive galvanism or faradism to the spine for ten to twenty minutes. Another brief rest and nourishment, exercise again outdoors. After supper the evening must be spent quietly until bed time, when a glass of milk or a cup of bouillon is given. This assists sleep. Every case must be a law to itself in regard to the modification of this method.

Too many have acquired the lazy habit, and it is a task in itself to break it. Urge and command such patients to walk instead of riding

in chairs and carriages. If strong enough to warrant it, advise horseback riding, moderate bicycle riding (no hill climbing), swinging dumb-bells, or slight work. If many of our so-called nervous ladies and men were influenced to go into the country or into their own gardens and take care of the hoeing, weeding, raking, and picking of plants; to abandon the constant necessity of being "dressed up"; to live on the plainer, more substantial food of the working classes, there would be less need for complaints, medicines, massage, and electricity. Be sure of your case, for this method is not applicable to all.

Massage and Electricity are valuable adjuncts to treatment, but should always be given with great discretion. They will tell you that massage and electricity disagree with them, and they cannot take it—in many instances because it has not been properly applied Disagreement is the rare exception if conservatively administered. The time for both must be carefully studied. One bears it best first thing in the morning; another in the afternoon, and a third class before bed time as a means of inducing sleep.

Bathing is frequently overdone. At the seashore the average case should avoid the surf bath, as it is too chilling, too exciting, too violent, the shock too great, and reaction usually poor. Cool or cold sponge baths in the morning, given by an attendant, and followed by a brisk rub with alcohol or oil, are very beneficial where reaction is good. In the less vigorous the tepid or warm sponge bath, but never real hot, as it is too depressant. Too many advise patients to come to Atlantic City and other shore resorts to take daily hot sea-water baths. A good policy is to give a tepid or cool sea-water bath (ten minute limit) one day and electricity or massage the next. Always advise one to two hours rest after the bath. The alternate cold and hot spinal douche will sometimes do much to control nervous twitching, nerve creepings, and mental depressions.

Climate.—High elevations, above 1,000 feet, aggravate most cases. They do best in low elevations, and especially at the seashore or among the pines. The roar of the ocean is annoying to some, and their nervousness may be increased, but these are usually the mental classes. True neurasthenics almost invariably benefit by a limited stay in Atlantic City if they avoid the crowded season and crowded parts of the board walk. Hot weather is usually against rapid recovery, and hot climates should be avoided except in a few select cases. The floating go-from-place-to-place neurasthenic is very hard to treat

and the ultimate results are poor. You can do very little for them. You must impress these people with the fact that it will require weeks, months, and even years, to gain ultimate cures.

Insomnia and the drug habit are two leading symptoms that must be promptly met. The average neurasthenic is a lover of drugs, and particularly the hypnotics. Do not radically revolutionize your patient's methods at your first visit, but impress your positive intention to gradually get away from them. Insomnia is commonly met with sulphonal or trional in doses from eight to thirty grains. The habitual user of these drugs is greatly depressed mentally, nervously and physically. Assimilation, elimination and circulation are poor. The heart is weak, irregular, rapid, and often intermittent. Nerve storms and sinking spells are frequent. In fact, there is a drug intoxication that puts to shame the true neurasthenic symptoms. The so-called cure produces a new condition that must be met as a complication. This class requires free stimulation at first, and the gradual withdrawal of the accustomed medicine and the substitution of one and another until your ingenuity and patience are almost exhausted, to be finally crowned with success or failure. These subjects require the most careful nursing, and are best suited for the absolute rest cure. Try massage, electricity, warm baths at bed time, hot foot baths, a cup of warm milk or a slight walk before retiring, a hot water bag to cold feet, reading a solid book for a half hour before retiring, a cool room in winter instead of a hot one, windows open instead of closed—in fact, try any one or several of these and many other methods as indicated. When these things fail you may occasionally resort to small doses of paraldehyd, bromides, hyoscyamus, cannabis indica, trional, sulphonal, chloretone, chloralose, or any of the other hypnotics —each suited to its class. Avoid regularity in the use of hypnotics, and never tell your patient the name of the drug given. Always impress positively the exact action you expect and the result is much better.

The administration of drugs is largely symptomatic in character, and there is no one remedy upon which we can rely, even approximately, that will cure neurasthenia. Remember that to be successful in treating neurasthenia you must be positive, painstaking, indulgent, sympathetic, and always ready to give a sufficient hearing and show your interest; but with all this you must show firmness and the superiority of mind over mind.

DISCUSSION.

Dr. PHILIP MARVEL, of Atlantic City.—It is not my intention to prolong your present discomfort very long in this hot room. Dr. Stewart has, in a very general way, outlined the treatment of neurasthenics, and if I may be permitted to specialize a little, I would suggest certain divisions of the subject for the general discussion, which divisions, however, are not arbitrary, but are convenient for discussion. The author of the paper stated, in his preliminary introduction of the subject, that neurasthenia is not a pathological disease, but a functional disturbance. Drs. Barker, Mann, Hodge and Ely, whose recent investigations have enabled us to look upon this condition in a manner, perhaps, more definite than formerly, tell us that we must look for the pathogenesis in the functional derangements which follow. For convenience, I will classify neurasthenia under the following heads, viz.: (1) Neurasthenia from exhaustion; (2) neurasthenia from hyperexcitation; (3) neurasthenia from toxæmia; and (4) neurasthenia from traumatism. As a type of the first, I would refer to the over-worked and broken-down broker or banker; as a type of the second, I would refer to those persons who are suddenly disturbed by shock or fright; as a type of the third, those who are affected by toxins absorbed from the intestinal tract, and as a type of the last class, those arising from traumatism. These are further divisible into: (1) Those who are totally disabled; (2) those who are partly disabled; (3) those who are totally disabled and have associated complications, and (4) those who are partially disabled and have associated complications.

In considering the treatment of any and all of these, temperament and heredity must be given a place in the

influence, as well as in the etiology of the disturbance. In the treatment of these cases, the first, and one of the most important things, in my judgment, is proper selection and judicious management. For instance, it would be a poorly-selected and inefficient treatment to first apply the rest cure to your highly nervous and excitable cases. Consider those cases whose nervous system has been so thoroughly excited that they are actually unable to control themselves, and any attempt at forced rest cure must necessarily antagonize and further disturb the patient. Whilst with those found in the first division, whose nervous systems have been exhausted through overtaxation, by applying the rest treatment to these, you really do much good. The cases that are highly excitable, and have but little self-control, are better managed by environment and suggestion. Those that are due to toxæmia require treatment addressed to the gastro-intestinal tract. In the traumatic cases, the disturbance occasioned by the trauma, whether it be an apparent disturbance of the tissues, or a shock to the nervous system incident to the injury, must receive your attention. Topical treatments, such as baths, massage and electricity, have their place. The massage tends to relax the vascular tension, which is so apparent and so persistent in the majority of these cases. In attempting to treat this class of cases, if I were not permitted to use the different kinds of baths, together with massage and electricity, I would feel that my chief reliance had been taken from me. With proper management and such treatment as I have referred to in a general way, be adopted, the patient should do well, but it must not be forgotten that the personal equation has much to do with one's success.

DR. G. H. BALLERAY, of Paterson.—The disadvantage of speaking last is that those who have preceded you

have said almost everything which should be said; moreover, I did not know until an hour ago that I was expected to discuss this subject. The subject of neurasthenia is a vast one, and can hardly be disposed of in a few minutes. I think we are all more or less neurasthenic, just as some one has said, we are all more or less crazy, it being only a question of degree. To treat neurasthenia efficiently one must begin before the patient is born, namely by treating the mother. If more attention were paid to the hygiene of childhood and youth I think there would be fewer cases to treat. Prophyalxis, then, is an important part of the treatment. Neurasthenia is a matter of heredity and environment. I have nothing to add to what has been said regarding the general treatment, as I believe that general hygiene is the underlying principle. In the treatment we should endeavor to adapt the treatment to the individual case instead of trying, as is too often the case, to make the patient fit the treatment. I think it is a great mistake to tell a man with neurasthenia to go travelling with a wife who wants to see everything, and who drags her husband around until he comes back far worse than when he went. Such a man should be given a fishing rod or a shot-gun and told to take a quiet vacation in the woods. Neurasthenia in women is often connected with menstrual disturbances, or with the debility following child-bearing and lactation. As regards medication, the fewer drugs the patient gets the better for him, and special caution should be exercised to prevent him from becoming addicted to the use of narcotics.

ESSAY.

BY SAMUEL E. ARMSTRONG, M.D., RUTHERFORD, N. J.

SOME OF THE INFECTIONS, THEIR GENESIS, HABITAT, CONSEQUENCES AND PREVENTION.

"An infection is the morbid process induced by the invasion and growth in the body of pathogenic micro-organisms."

This definition, which seems to be quite clear and concise, is laid down by Osler in a recent edition of his work on the Practice of Medicine. From it we infer that all the so-called contagious diseases are infectious, and I believe that to be the more correct and modern view; if we discard the word contagious altogether, and hold to the use of the word infectious, our understanding of this class of diseases will be much facilitated and our knowledge rendered much more accurate. As an argument in favor of this view, we find that contagion is a noun without a verb formation, whereas the word infection is derived from the Latin verb *inficio*, and has its verb, noun, adjective and adverb, of easy formation in the English; furthermore, the real difference in the meaning of these words is so slight that to use both serves to confuse rather than to enlighten. According to the definition one might infer that, if pathogenic micro-organisms enter the body, infection is sure to follow; that such is not the fact, we have abundant proof. We know that to a very large degree vaccination produces immunity from smallpox and age from the infectious diseases of children. A case of scarlet fever may break out in a school room of forty pupils, and but one or two additional children be affected by the exposure; it is not reasonable to suppose that but one or two pupils breathed the germs, or the poison of this disease, into their throats and lungs. To me it is not reasonable to suppose that but one or two pupils really took the poison into their systems; it has been demonstrated, beyond a doubt, that diphtheria germs have been present, for days in the throats of nurses, attendants and others, without producing a single symptom characteristic of this malady; is it not reasonable to suppose that, having gained entrance

into the throat of so many inidviduals, they are sufficiently *in* their systems to produce infection, except for the presence of some condition or principle which inhibit their action? We proudly raise our heads and say, certainly! In order that a given disease may be produced, two things are necessary, viz: the right sort of germ must get into the system, and the condition of the system must be of a certain kind in order that a suitable soil for the growth, development, or multiplication of the germ may go on; but, we halt. While the germ theory has pulled us out of many difficulties, it has plunged us into at least one, and a great one, indeed. What is that condition, admitting that the Klebs-Loeffler or the plasmodium is the seed; what is the character of the soil which furnishes pabulm for its multiplication; what is the true genisis of these infections or of infections in general? I am afraid that we will be obliged to grope greatly in the dark. However, in order to better study the various phases of the subject, I propose to take up three infections, in the order given, viz: abscess, syphilis and malaria.

We are told that pus producing germs exist everywhere, and that there is a liability to infection through any slight abrasion of skin or mucous membrane. The microbes which are most apt to produce suppuration and perfectly characteristic abscess are the staphylococci, streptococci and diplococci; however, the varieties known as the tubercular bacilli and gonococci come in for their share of trouble producing. Strictly speaking, an abscess is a cavity produced by a pathogenic process, containing pus, tissue detritus and bacteria, but, if I mistake not, wherever there is pus there are, or at some time have been, bacteria; accordingly some cases of appendicitis, all cases of salpingitis, empyema, and many other suppurative processes, might very properly be considered abscesses. Indeed, almost any tissue of the body is liable, under proper exciting causes, to give way to pus formation and abscess; but in abscess, as in all infections, a suitable soil must be furnished. Admitting it as a fact that pyogenic bacteria are ever present, and, then having learned by experience and observation that hardly a day passes to any one that an abrasion does not occur of sufficient magnitude to admit of their entry into the body, the great wonder is that there are not vastly more cases of abscess than we now meet. This immunity can only be accounted for on the theory that, as in other infections, soil conditions are of quite as much importance as the introduction of the germ. Not long since, I

had three children in one family who had tubercular glands of the neck, all acquired, undoubtedly, from infected milk. The same children had scarlet fever at about the same time; however, after the tubercular infection. Why this susceptibility to infection? I could get no tubercular history. I suspect that the physiological chemist will have his innings yet, and, in time, will be able to explain many things which are now inexplicable and will greatly aid us in our battle against infectious diseases.

Syphilis is the most horrible disease we have to meet; horrible because of its ravages; horrible because we have it and should not; horrible because many innocent ones suffer along with the guilty—unsuspecting travelers through life's journey, pure and noble wives, wives who are about to become mothers, and their children, yet unborn, and their children's children, even to the third and fourth generation. While the germ of this disease has not been satisfactorily demonstrated to all observers, there can be no doubt that a morbific principle does exist; so far as its habitat is concerned, suffice it to say, that there is no tissue in the body that may not be attacked. Its effects are simply devilish, whether of venereal origin or innocently acquired. While there is a very strong plea put forth by some—Buckley, of New York—to consider syphilis as a non-venereal disease, in order that it may be the better controlled, nevertheless, it is an undeniable fact that it is conceived and fostered in licentiousness—that instrument of the devil, which he uses for the destruction of men, soul and body. Buckley makes a strong plea in favor of his doctrine, but does not tell us how the disease is to be controlled thereby. Morrow, in a recent paper, argues in favor of better facilities for treating the disease and a campaign of education, but does not favor the legal control of prostitution. I do not fully agree with either of these gentlemen, though learned and experienced they may be. Do not call white black; its character cannot be changed by such process. Put a stop to infection among the licentious and syphilis among the innocent will soon cease to be. I should say, confine all prostitutes to certain quarters, and then inspect, isolate and treat. This method would not only tend to check the spread of syphilis, but would have a beneficial influence in checking at least one form of abscess, pyosalpinx, which, in many cases, is a venereal disease, innocently acquired.

I advise this course, not because I wish to legalize prostitution or protect its devotees, but, in God's name, I should like to protect the

innocent. Dr. Morrow says, treat the disease and educate the people; thus far I agree with him. Treat! treat! educate! educate! I doubt if too much of either can be done. So much for syphilis, and, incidentally, gonorrhœa.

Ever since the discovery of the plasmodium by Leveran, the study of malaria has been waged with redoubled energy; this is particularly true in some of the foreign countries; however, the various types of the diseases which most interest us can be as well studied here, in the State of New Jersey, as on any other part of the globe; notwithstanding this, I am not aware that any citizen has seriously endeavored to delve into the secrets of this complaint, of which we certainly have more than enough; nor, has the state engaged in this enterprise, which so vitally concerns its prosperity. We may take it as demonstrated that malaria is caused by the presence of the plasmodium in the blood; that its genesis is intricate, but certainly proven; that one of the things absolutely necessary to its propagation is inoculation by the variety of mosquito, known as the Anopheles; that, if we could rid ourselves of this pest, we would also rid ourselves of the disease which is so surreptitiously introduced into our bodies. The story of this process, so lucidly given by Howard in the April *Century*, is as follows:

"There are three distinct types of malaria, each caused by a different species of micro-organism. The life-round of each, however, is much like that of the others. If a drop of blood is taken from a person recently infected with malaria, say from the lobe of the ear, some of the red blood corpuscles will be found to contain minute, shapeless bodies in which a central spot or nucleus can, with difficulty, be demonstrated. These little bodies of which usually but one will be found in each blood corpuscle, are unicellular, and resemble the low forms of life known as the amœbas. In this stage the malaria parasite is known as the amœbula. Each of these amœbulæ grows rapidly, absorbing and digesting the red coloring matter of the red blood corpuscle, and gradually showing in its interior certain excessively minute dark colored spots, called pigment spots, which represent the digested red coloring matter. In the course of a few hours the amœbula will have grown so that it occupies the entire interior of the blood corpuscle. Then, with some of them, the nucleus begins to divide and to sub-divide, each sub-division gathering around itself a certain amount of protoplasm, and eventually the entire interior of

the blood-corpuscle is filled with a group of spores instead of a simple, large, unicellular body. Then the corpuscle breaks, and these spores are liberated into the blood-serum. Such of the malarial parasites as undergo these developments are called sporocysts, and from a single infection the spores of all of the sporocysts are liberated with great uniformity at about the same time.

" The liberation of this mass of spores into the blood serum causes a profound disturbance to the system of the patient and the malarial fever immediately begins. In the case of what is called tertian malaria, this liberation takes place every forty-eight hours, and, therefore, the fever recurs every forty-eight hours. With quartan fever the sporulation takes place every seventy-two hours. Suppose, however there has been a reinfection of the patient in the case of tertian malaria a day later than the original infection, or on one of the days when there is no fever. Then the sporocysts, developing and sporulating in forty-eight hours, will produce a fever on the alternate day, thus giving rise to what is known as daily, or quotidian, fever. The same complication may ensue with quartan fever, when there has been a reinfection upon one of the first or second days after the fever. This development of the form of the parasite known as sporocysts may continue indefinitely within the human body.

" We have seen, however, that not all of the parasites develop into sporocysts. Some of them grow and fill the blood-corpuscles, forming pigment spots in their interior, but develop no further. They die, and their remains, together with the remains of the blood-corpuscle which they inhabited, are devoured by the white corpuscles of the blood. If, however, the blood is taken from the human body and put upon the microscope-slide for study, or if it be sucked out by a mosquito, and presumably by any other insect, those parasites which do not make spores in the human body immediately begin a further and different development. Some at once give out long, slender arms or filaments, or flagella, as they are called, and this phenomenon is known as flagellation. Others swell somewhat, but do not give out these thread-like arms. This is the true sexual generation of the parasite, the ones with the thread-like arms representing the male sex and the others the female sex. The filaments, or flagella, detach themselves from the parasite from which they have arisen, seek the female bodies, and fuse with them.

" On the microscope-slide, in the bodies of most mosquitoes and

other blood-sucking insects, no further development takes place, but in the stomach of the genus Anophales an extraordinary thing happens. These fertilized female parasites, which have been called zygotes, immediately work their way through the mucous membrane of the stomach, and station themselves just within the other muscular stomach wall. Here they begin to grow rapidly, until they reach a size five times larger than their original dimensions. Certain clear, round spots begin to be seen upon them, and around these spots, which are known as centromeres, are rapidly formed excessively minute, dark linear structures, looking like little black wavy lines, which, however, when excessively magnified, are seen to be slender, independent spindle-shaped cells. These form about the centromeres in enormous numbers, until the entire zygote is packed with them, and the centromeres disappear. Then the capsule breaks through the muscular wall of the stomach, and the innumerable numbers of these little spindle-shaped cells, known as blasts, swim out into the body of the mosquito. Thence they find their way into the cells of the salivary gland and down into the salivary duct, whence they enter the proboscis of the mosquito, and through this, the blood of the next human being which is bitten by the mosquito. The secretions of the salivary gland form the irritating poison which is inserted by the mosquito into the wound at the time it punctures the skin. Thus, in the form of these blasts, the parasite returns to the blood of the human being; the blasts enter the red corpuscles and become amoebulæ once more in the condition with which we started this account."

Thus, we see that malarial disease is brought about by a definite process, and no mere accident of wind or weather, except in so far as certain temperature, soil and water conditions are necessary to form a suitable home for the peculiar variety of mosquito which acts as the host.

The consequences of ague are far-reaching. To the individual there is pain, suffering, continued ill-health, loss of time from his business, a shortened existence, and, now and then, death during the attack. Also, on account of the reputation which some sections of our beautiful state enjoy, a great loss in material wealth to our citizens, amounting to millions of dollars, and, consequently, a great loss to the state in revenue, amounting to hundreds of thousands of dollars every year. What are we to do about it?

FIRST.—Educate the people up to the proper appreciation of the

true cause of malarial disease. If necessary, form anti-malarial societies for that purpose.

SECOND.—Instruct the people in the proper and most efficient manner for the destruction of the Anopheles, which is comprised in the following directions:

(*a*) The filling in of all useless ponds, ditches, and the like, wherever practicable.

(*b*) Underdrain all swamps and marshes which cannot be filled in, where practicable.

(*c*) Perfect cleanliness about the premises and the emptying of tubs, buckets, rain barrels and the like.

(*d*) The stocking of ponds and streams, which cannot be filled in or drained, with certain varieties of small fishes.

By these means we attack the creature in her breeding places, thus destroying her before she has had an opportunity to increase and multiply —wax strong and grow fat, so to speak. The great State of New Jersey, as a state, should take part in this battle of extermination. I have said that there are hundreds of thousands of dollars lost to her every year through these little pests. I am sure I have not overshot the mark, for we must admit that, whether New Jersey deserves it or not, she has a bad reputation in this regard. In the light of our present information, is it not safe to say that if one-quarter as much money were spent by the state for the purposes indicated as is being spent in New York City for the construction of the underground trolley, there would be small need of underground trolleys in that city, and greater need of bridges over the Hudson? Gentlemen, I realize that the task contemplated is enormous, but you will note the results sought are most desirable, and the forces which I propose to bring to bear are equally enormous, namely, relatively speaking, the entire energy of the whole people. Can this society do anything for the furtherance of this cause? Gentlemen, that matter rests entirely with you, but I am strongly impressed with the idea that an anti-malaria committee should be appointed, consisting of one member from each county, the duty of which committee should be to study the subject as applied to our state, to assist in educating public opinion and secure united action; which committee should have the power, in conjunction with our present committee on legislation, to appear before the state authorities, when a suitable plan for action shall have been formulated, and secure, if possible, state aid in the business.

I offer these suggestions, not because I expect to see the millenium follow at once, if they should be adopted, but I certainly should expect inestimable benefits to come to our people in due time.

DISCUSSION.

DR. FERDINAND M. JEFFRIES, of New York.—I feel that we are all greatly indebted to Dr. Armstrong for at least two points in his paper, viz.: (1) The suggestions that we educate the people, and (2) that we approach our lawmakers. My remarks will be confined to a consideration of these points. There are between forty and fifty different forms of infection commonly met with, and many of them, like the poor, are always with us. Individuals vary in the degree of susceptibility to different infections. Individuals differ and the same individual varies at different times. Little is yet known definitely regarding immunity and susceptibility. We do know, however, that the better the physiological state of the individual the better the immunity. This is a general rule, yet there are some exceptions. It is, therefore, incumbent upon us to maintain a better state of health. Are we, as medical practitioners, doing our best in this matter? Let us make an effort to teach the people as to the best means of maintaining a high standard of health. No one is more capable of doing this than the medical practitioner. No one can enter the home circle as can the physician. Then, again we should see to it that more instruction, and instruction in the right line, be given in our public schools. This is being done to some extent, but not entirely in the right line. We should call the newspapers to our aid and induce them to devote less space to vice and crime and a little more to matters of hygiene as expounded by the medical profession.

The problem of how best to reach our legislators is a difficult one. We find that the legislator is rather slow

to take suggestions in the way of laws and ordinances for the maintenance of the health of mankind. On the other hand, he is quick to make a law which will protect the livestock on farms or will foster sport by protecting wild game. Out West there is found a weed that is poisonous to cattle. It did not take the legislature very long to enact laws which would encourage the collection of this local weed, and which the State was forced to buy at so much per ton. There used to be a law in Colorado which provided that the State should pay so much per head for hawks in order to protect fowl. In Washington there was a certain thistle which was found detrimental to crops of hay, and so indirectly injured the livestock. A law was passed compelling every land owner to cut down the thistles before they went to seed. In Montana they pay so much per head for wolves. It is true that our legislators are accomplishing something, but it is not far-reaching enough. For instance, in a few cities, ordinances have been passed making it a misdemeanor to expectorate in public places. No one dreams that this law will be obeyed, but its object is to educate the people, and this it certainly accomplishes. We have laws which protect our supplies of meat, milk and other foods to a certain extent. I once heard ex-President Cleveland, at the fiftieth anniversary of the New York Academy of Medicine, say that the trouble with the physician was that he allowed the lawmaking to go to some one else. This is certainly true, but should we not exert ourselves, and if we cannot get these laws passed ourselves, shall we not go into the legislative halls and see that they are passed?

Dr. Armstrong, in speaking of malaria, suggested that societies be formed to combat this disease. The value of such action would be principally in educating the people,

but can we not go a step further and have the legislature pass laws which would compel land owners to properly attend to all the ponds and other breeding places of mosquitoes and of malaria? It is useful to treat these ponds with petroleum where they cannot be done away with. Certain communities in New Jersey are already accomplishing a good deal in this line. Let me say once more, you are the ones who should start this campaign of education.

Dr. W. L. VROOM, of Ridgewood.—Dr. Armstrong brings out the facts that it is not only necessary for the germ to enter the system, but it must proliferate, producing toxines, with the absorption of the same, to constitute an infection.

We can go to our surgical friends and get a lesson on the treatment of infectious diseases. Through their asepsis, they prevent the introduction of germs into the system. By the draining of septic cavities and the use of antiseptics, they inhibit the action of pyogenic germs; although they do not, as yet, offer an antidote to the toxines when once absorbed.

We medical men are generally treating our infectious diseases after the formation and absorption of the toxines have taken place. We are not sufficiently trying to prevent the introduction of the germ, or modify its proliferation. We certainly have accomplished a little in the treatment of diphtheria, endeavoring, by the use of antitoxine, to inhibit the action of the diphtheretic germ, so that now these patients recover without going through all the stages of secondary infection, and the consequences of toxic absorption.

Some observers have claimed that in pneumonia, also, by the use of sodium salicylate, or carbonate of creosote, the disease can be modified. That means simply inhibit-

ing the growth of the pneumoccus and preventing the absorption of the toxine, which causes what we call the disease.

Dr. A. TREGANOWAN, of South Amboy.—*Mr. President:* Whilst I am up, it may not be inappropriate for me to tell a little story apropos to the present discussion of the mosquito question. I have been looking around me and I see many of the members nodding. It may be the soporific effect of the atmosphere or from being up late last night. It is related of the celebrated Alonzo Dow, the once exponent of Methodism in this country, that he was appointed by the Methodist Conference at Philadelphia to make a missionary tour of the West for the purpose of creating a more lively interest in Methodism and the expounding of its simple creed. It is said that Mr. Dow, in his morning service at one of the churches, stopped suddenly short in the middle of his sermon, and began to laugh uproariously, hilariously, and after he got through with his laugh he took up the thread of his subject and continued to the end. During the afternoon, several members of the congregation came to him, among them Deacon Smith, Deacon Jones and Deacon Brown, and they told Mr. Dow that they thought his unseemly behavior during the morning service required an apology, for the congregation could not understand such unseemly levity. Mr. Dow said: "You want an apology?" "Yes." "Very well," he said, "I will make it during the evening service." At the evening service people were on tip-toe to hear Mr. Dow's apology for the levity of the morning, but he did not make it until he got into the middle of his sermon, when he stopped suddenly and said: "Oh! I have been requested by Deacon Smith, Deacon Jones and Deacon Brown to make an apology to you, my brethren, for my unseemly behavior

during the morning service. Well," he said, "the circumstances are these: During my sermon in the morning, I looked around me, and there was Deacon Jones, Deacon Smith, Deacon Brown, and many of the prominent members of the congregation, fast asleep. In looking down towards the door, I saw the door moving gradually open, and eventually I saw a peculiar head looking in, which I thought must surely be the head of the devil. He popped his long ears and peculiar face in and I was not mistaken; the devil walked up the middle aisle and looked at these good brethren fast asleep. He began to take their names, but his list was not large enough to take all the names, and the devil became so disgusted, and with such a scowl on his face as I never saw on human or devil, he turned and rushed towards the door, but in his eagerness to get out, he forgot his long forked tail, the door swung to and caught his tail between the door and the jam, and such a develish squeal I never heard in my life. That, my brethren, was the cause of my levity. But, my friends, it seems to me that you should ask an apology from the devil himself, and not from me, and my request to you is that when you meet the devil again, ask him to make an apology to you."

But to return to the discussion of malaria.

Many years ago we began to hear reports from India by the English army surgeons that the malarial bacillus had been discovered, and these reports and similar ones have been going on from the various parts of the world ever since, until now they blame the mosquito for the dissemination of malaria, and have it down to such a point that they are going to drive the mosquito out of existence, but I wish you to understand, gentlemen, in driving the mosquito from New Jersey, I ask you not to do it, as in doing so you will deprive New Jersey of one of its espe-

cial industries, and that is the manufacture of mosquito nets and netting. Now, Mr. President, although these English army officers and scientists of the present day have declared that they discovered malarial bacillus, I wish you to understand that, many years before that, this very same malarial bacillus was discovored by myself. Now, gentlemen, don't laugh, for most men are eager to tell of their greatness and success, but few are willing to tell of their failures and follies. I am going to tell both of my failure and folly, so, gentlemen, don't laugh! It is my misfortune to practice in a very malarious district, perhaps one of the worst in New Jersey, so I thought it over about forty years ago, and I determined that I was going to capture the ghost of malaria, the so-called malarial bacillus, and my plan of procedure was this. I provided myself with a half-gallon glass jar filled with broken ice, and started out with this jar and an ordinary dinner plate at the dead hour of night, when ghosts of everything and everybody are supposed to be abroad, and went down into the swamp and set my traps. I waited for about two hours, placing the jar on the dinner plate, and in that time there were about three or four tablespoonsful of condensed fluid running down from the jar into the plate. I packed up my traps and went home, putting the fluid into a close stoppered bottle, and began my experiments. After evaporating a few drops of the fluid on a glass slide and putting it under a high power microscope, I discovered something in the shape of crystals, of which I knew nothing. But I have omitted to say that in the neighborhood of this swamp there was a sulphur factory. So, in my dilemma, not knowing what I had found, I hunted up an old friend who was a competent chemist, a fine microscopist, and an excellent pathologist, told him what I had done and what I had

found, and I begged him in the name of God to keep quiet, for there was name and fame in it for both of us. I asked him to make a thorough examination of the fluid and let me know as soon as he could. About three weeks after that I received a letter from the scientist asking me if there was a sulphur mine in the neighborhood, for he could discover nothing in it but sulphur crystals.

Now, gentlemen, you can form your own conclusions; I am making no claim to any great discovery, but simply wish to show you my honest effort to discover this mysterious malarial bacillus, and instead of making for myself a name and fame, I made an ass of myself, which many men are not willing to admit!!

Now, then, you have my experience, gentlemen, and can laugh all you like, but I must still claim priority on the discovery of this mysterious malaria bacillus!!!

DR. ALEXANDER MARCY, of Riverton.—I should like to say a word about the mosquito and the propagation of malaria. I think there are other ways of conveying the plasmodium of malaria to the human body than through the anopheles. I have certainly seen some striking evidences of malarial infection in a portion of the state where there are practically no mosquitoes, and I can hardly accept the theory that the plasmodium is developed in the mosquito. The mosquito is simply one of the means of conveying malarial plasmodium from stagnant water or marshes to the human system. In a number of instances of severe infection where quinine has seemed to be practically useless, I have had remarkable results from the administration of methylene blue and quinine in conjunction. I think this is a point well worth remembering.

Report of Committee on Dr. Newton's Paper.

During last March there were twenty-two cases of diphtheria in Montclair, all of which had drunk Fairfield Dairy milk. These cases occurred on March 17–25th, 1901. Forty-nine cases in forty-seven families occurred on the whole route of delivery, or about two per cent. of the families supplied by this dairy had a case of diphtheria (in only two instances two cases in the same house). Allowing five persons to a family, the per cent. of Fairfield milk users developing the disease was less than one-half of one per cent. Those having studied the facts of this interesting epidemic are divided in their opinion as to the milk from this dairy being the cause of the spread of the disease. The facts, however, are as follows: The milk bottles from houses in which contagious diseases had occurred during the winter of 1901 had been kept in a place by themselves at the dairy, because it was difficult to boil these bottles in cold weather on account of the breakage. However, in the early part of March, two men were sent to boil these bottles. In four days afterwards a case of diphtheria appeared in Montclair. On the following day two more cases, and on the seventh day seven cases. These cases had all drunk the Fairfield Dairy milk. The rather sudden appearance of the first seven cases led Health Inspector Leighton, of Montclair, to go at once to the dairy and take cultures of the throats of forty-five employees. Of these, two showed the Klebs-Loeffler bacilli, and these two were the men who had been busy boiling the infected bottles a week before. Their throats showed moderate congestion, which soon disappeared. They were quarantined and the sale of the Fairfield milk suspended.

During the subsequent investigations seventeen more of the milkmen showed the Klebs-Loeffler bacilli in their throats. It might be said in passing that the New York City Health Board took the keenest interest in the entire matter, and assisted in the investigation in a very efficient manner. From their work it was proved beyond question that the bacilli found in these milkmen's throats, as well as a number found in the throats of the patients in Montclair, were genuine Klebs-Loeffler bacilli and were virulent.

On the eighth day from the boiling of the bottles two cases

appeared; on the ninth, one case; on the tenth, two cases, and on the eleventh three; on the twelfth three. The last often suspected milk from the dairy was delivered on the morning of the eighth day from the boiling of the bottles, and in four days thereafter the spread of the epidemic ceased—a very significant fact, inasmuch as the history of previous epidemics of this disease would lead one to infer that the epidemic was just starting and was spreading rapidly from a number of scattered foci when it suddenly stopped within four days of the stoppage of the sale of this milk.

The proposition might be advanced that if the milk were the carrier of this contagion, the total number of cases ought to have been much greater. It must, however, be borne in mind that the care and management of the milk in this particular dairy are of the very best, and that within a very few minutes at longest after milking, this milk is cooled down to 40° F., and it is kept at this temperature until delivered. This temperature, moreover, is too low to permit the growth of the bacillus, which may account for the small number of cases.

The course of the disease was mild, and modified in most cases by the early administration of antitoxine. Two deaths occurred of the forty-nine cases.

The assertion was made by some that if cultures should be taken from fifty healthy throats, two or three would show Klebs-Loeffler bacilli. Therefore, at the suggestion of Dr. Park, of the New York Health Board, the writer and Mr. Leighton took fifty cultures at random from the pupils and teachers in the Montclair public schools, and no Klebs-Loeffler bacilli were found in them. While, on the other hand, of about an equal number of inmates of the Children's Home, four or five showed the presence of virulent Klebs-Loeffler bacilli. These were all small children and had all been drinking the milk, and none of them developed any symptoms.

To the credit of Mr. Francisco, it must be said that he has not been shown to have been in any way to blame for the spread of the disease; and as he has taken steps to have the throats of his men regularly inspected, and cultures made of them, we have ground for hoping that no other epidemic of diphtheria can ever be asserted to have originated in his dairy. Furthermore, the Health Board has prohibited the storing of infected bottles, and even the leaving of milk bottles at infected houses. The milk has to be poured out of the bottles at the house and the bottles taken back and resterilized, so this source of danger seems to have been eliminated.

The question of how the milkmen, who are unusually careful about washing their hands and the cows' teats, cleaning their nails, etc., might have infected the milk is not, perhaps, difficult to answer, as the bacilli might get onto their fingers from their handkerchiefs or other articles of clothing. They might wipe their mouths with their hands, etc. The recently published experiments of L. Napoleon Boston, of Philadelphia, in addition to those of other observers formerly made, show how the breath of the milker might contaminate the milk very easily.

If we admit that the milk from this excellent dairy may have been the carrier of this contagion, we are perhaps forced to the conclusion that milk can only be rendered absolutely sterile by boiling, and that this must be thoroughly done, and done immediately before the milk is used. This is a distressing reflection, because the unnourishing and other unsatisfactory properties of boiled milk are too well known to require comment.

Remarks on the Alleged Relation Between an Outbreak of Diphtheria in Montclair and the Milk Supply.

BY HENRY L. COIT, M.D., 51 HALSEY STREET, NEWARK, N. J.

I feel sure that I shall be pardoned for the remark, in prefacing what I have to say, that the plan for which I was responsible several years ago for safeguarding milk designed for clinical purposes and called "Certified Milk," should not be called in question or jeopardized in the minds of physicians in the consideration of this question; since in no case of sickness referred to in the so-called epidemic in Montclair was the product known as certified milk used at all, and in the few isolated cases elsewhere in Essex County where certified milk was used, other milk was invariably purchased and used. The unselfish efforts that have been made by the profession in Essex County, New Jersey, are of too great importance to the public at large to be discredited by premature conclusions.

In considering the question of the etiology of the recent cases of diphtheria occurring in Montclair, New Jersey, it seems to me that the question at issue, and which calls for a decisive answer, is the follow-

ing: Are the facts adduced by the Board of Health of Montclair of such a character as to justify the belief that the disease was conveyed by milk sold by the Fairfield Dairy Company. *We think not.*

The findings of the Board of Health of Montclair depend upon a single fact, namely, that coincident with the appearance of diphtheria in Montclair, on examination of cultures of the throats of fifty-one men employed at this dairy, the Loeffler bacillus was found in two, and that these two were known to have been working about the milking barns on or about this time.

It should be borne in mind that all of these men were at once quarantined at a safe distance from the dairy, and the fact, that seventeen others who lived, ate and drank with these, and probably smoked a social pipe, and later developed the bacilli, can have no bearing upon the causation of the Montclair cases, except to verify the findings in the first two. It should also be borne in mind that within the limits of the dairy there had been no sickness for six weeks previously, when one man, complaining of sore throat, was examined by the dairy physician, and on culture his throat was found clear. Furthermore, no one within the dairy limits and no one who had been employed by the dairy company developed diphtheria during the quarantine of the fifty-one men, which lasted until April 12th, or twenty-three days after the first findings, nor has any one since shown evidence of the disease

No further facts connected with the dairy can be adduced against the milk from this source, except the foregoing, which were published to the profession in Essex County, New Jersey on March 20th, by the medical commission.

On the discovery of the Loeffler bacillus in the two throats, the owner of the dairy notified the medical commission that he had quarantined the men in question, and that he refused to sell any of his dairy products until the commission should advise him that it was safe to do so.

Three physicians, members of the commission, visited the dairy within three hours, found the premises and general conditions satisfactory, examined the men in question and found them perfectly well and not the slightest evidence of any local or pathological change in their throats. The commission, however, advised the discontinuance of sale and quarantine of the entire force as a precautionary measure, awaiting developments and a careful investigation.

After this action by the commission, a quarantine was established

by the state authorities, but was promptly raised on the third day thereafter by the free and unanimous consent of the state and local boards of health.

It is manifestly unreasonable to consider the milk from the Fairfield Dairy as a means of infection for the cases in point at any other time than one week prior to March 20th, which would antedate the appearance of the disease in Montclair several days, or than one week following this date, which was four days after the last case had appeared in Montclair.

First considering the Newark cases, let it be understood that for this period included by March 13th and March 27th, according to the records in the office of the Newark Board of Health, there were thirteen cases of diphtheria occurring among ten hundred and forty-eight families who were buying either all or part of their milk from the Fairfield Dairy (1.04), or a trifle over one per cent. of families (not individuals) drinking the milk.

Prior to March 20th, there were, during the month, sixty-four new cases of diphtheria in Newark, and four (4) families on this list took Fairfield Dairy milk.

During the fortnight included by the week preceding and the week following the discontinuance of sale, there were in Newark fifty-nine new cases reported, so that, according to the records of the Newark Board of Health, there was no marked increase in the number of cases, coincident with the outbreak in Montclair, or for eleven days thereafter; so that the Newark cases do not furnish any corroborative evidence that they were in any way associated with the Montclair epidemic. I quote from an officer of the Newark Board of Health, who said, "No one in this office believes that diphtheria in Newark was increased by the Fairfield Dairy milk supply." To state that there was an epidemic of diphtheria in Essex County outside of Montclair is not justified, as the numerical statistics given later will show.

The rapid subsidence of the epidemic in Montclair after the discontinuance of the Fairfield Dairy milk was as likely to be due to the exceptional vigilance of the Montclair Board of Health, in the quarantine of cases, their isolation, disinfection of premises, and the use of antitoxine.

For the following facts in connection with the cases in Montclair, I am indebted to Dr. E. G. Wherry, of Newark, who visited every

family but one in the county where diphtheria had occurred during the period in question and made a careful investigation of every case.

There were only six cases of diphtheria in families in Montclair which took Fairfield Dairy milk exclusively. All other families where diphtheria occurred admit that they took milk, or cream or ice cream from other sources.

A larger number of cases in Montclair attended the Congregational Church than took Fairfield Dairy milk exclusively, and, in addition to this fact, the daughter of the minister and a visiting friend had throats infected with the Loeffler bacillus.

It is a significant fact that a large proportion of the twenty-one cases of Loeffler infection in Montclair were adults and not children.

A physician in Montclair (his own statement) had two children who drank the milk raw, and his wife never drank the milk until it had been boiled, and she was one of the twenty cases of diphtheria in question.

One family in which two or three children drank the milk freely escaped, and a colored servant who drank the milk sparingly was taken sick.

Another of the cases in Montclair was a girl of nine years who drank milk sparingly and contracted the disease; her two brothers drank it in quantities and escaped, but inquiry developed the fact that the girl had a few days before visited a friend with a severe sore throat.

Another adult case in Montclair (a mother with three children) contracted the disease using the milk sparingly in her coffee, while her three children, drinking it freely, escaped.

A school teacher living in a boarding house where there were a great many children, all drinking milk, was the only one to contract the disease.

A boy of eight and one-half years, living in a boarding house with a number of children, contracted the disease after direct exposure to a case of convalescent diphtheria in a physician's office.

Among the Montclair cases reported there was at least one that showed no other manifestation of the disease than the Loeffler bacillus in the throat, and this was a young *adult*.

In several children's institutions in Essex county, where Fairfield Dairy milk was used exclusively, to the extent of several hundred quarts daily, much of the milk being taken raw, no case of diphtheria occurred.

These statements, in themselves, prove nothing, but collectively they serve to throw doubt upon the value of the evidence against the Fairfield Dairy.

By a comparison of reports to me of local health officers in Essex and Passaic counties, where Fairfield Dairy milk is sold, I find between March 13th, which was several days before the first case in Montclair, and March 27th, which was four days after the last case appeared there, the following numerical relations.

If the basis for percentages is the number of families supplied, then the number of families infected, and not individual cases, should be estimated. If the basis shall be individuals using the milk (and one quart to each individual would be conservative), then the number of individual cases would give us more reliable data. For on the former plan errors would occur through second cases due to direct exposure to the first.

On these bases I find the following statistics, which have been verified by others:

MONTCLAIR.—367 families supplied with 940 quarts. Families infected, 17; individual cases, 20, or 4.67 per cent. of families supplied. These families received 940 quarts of milk and 20 persons had diphtheria, or 2.1 per cent.

VERONA —3 families supplied with 8 quarts. Families infected, 1; individual cases, 1.

GLEN RIDGE AND BLOOMFIELD.—78 families supplied with 150 quarts. No cases.

ORANGE PROPER.—100 families supplied with 164 quarts. No cases.

WEST ORANGE.—16 families supplied with 50 quarts. Individual cases, 1.

SOUTH ORANGE.—87 families supplied with 220 quarts. Families infected, 3; individual cases, 3.

EAST ORANGE.—229 families supplied with 663 quarts. Families infected, 8; individual cases, 8, or 3.5 per cent. of families supplied. These families received 663 quarts of milk and 8 persons had diphtheria, or 1.2 per cent.

NEWARK (the largest delivery) shows 1,048 families supplied with 1,538 quarts. Families infected, 11; individual cases, 13, or 1 04 per cent. of families supplied. These families received 1,538 quarts of milk and 13 persons had diphtheria, or 0.75 per cent.

PASSAIC.—(In an adjoining county) 79 families supplied with 116 quarts. Individual cases, 2.

PATERSON.—150 families supplied with 235 quarts. No cases.

KEARNY AND ARLINGTON.—57 families supplied. No cases.

Total number of families supplied, 2,500.

Total number of families infected, 45, or 1.8 per cent of families supplied. These families received 4.134 quarts of milk and 48 persons had diphtheria, or 1.1 per cent.

A more reasonable basis for an estimate of the individuals drinking the Fairfield Dairy milk would be to multiply the families by four, which would show that 10,000 persons used the milk The forty-eight cases would thus yield a percentage of diphtheria on this line of consumers of (0.5%) one-half of 1 per cent.

We have, then, a dairy supervised by a (disinterested) medical commission who, by a legal contract, for several years have controlled the details of collection, handling and transportation of the product, guarding every avenue by which a known danger could approach the milk on the way from source to supply—barns, stock, utensils, health of employees, sterile containers, sterile hands, and careful handling, with fifty-one perfectly healthy men without families, two of whom are found with a bacillus resembling the Klebs-Loeffler in their throats.

A supply of milk distributed to nearly twenty-five hundred families, used for food by ten thousand persons, and forty-eight cases of diphtheria among this number, thirty-seven of whom can be shown to have been exposed to other possible sources of infection.

Admitting the possibility of the Loeffler bacillus in milk as a cause of diphtheria, these questions are unanswerable, namely: Why were not more cases shown if the milk was infected? Why were the few cases so unevenly distributed on the line of delivery in Essex County? and since the foregoing conditions at the dairy have remained unchanged in every particular for eight or nine years, why have not similar outbreaks occurred before? If among fifty healthy men two otherwise healthy throats become the cause of the epidemic, it is inconceivable that during nine years fifty similar men under exactly the same conditions of housing, environment and exposure should not previously have infected the milk many times.

REPORT OF THE COMMITTEE ON MEDICAL INSPECTION OF SCHOOLS.

Mr. President and Gentlemen:

The Committee on the Medical Inspection of Schools have anxiously watched the action of the Educational Board in relation to the appointment of medical inspectors. The general school law, Chapter, 96, Laws Session 1900, provides for the appointment of medical inspectors, and prescribes their duties in Article XXX, Section 255. The provisions of this act have been adopted in a number of instances. In the city of Paterson four inspectors were appointed, at an annual salary of $250 each. The various school houses were arranged in four groups, one for each inspector. The inspectors seem to have been employed by the Board of Education, but placed almost exclusively under the direction of the Health Board or the Health Officer. Their duties for the first six months ending July 1st have been to make regular visits to the schools, examine the pupils referred to them, exclude those suffering from communicable diseases, and they are expected at the end of six month to make a report. They have not as yet been requested to comply with the other provision of the law.

Your committee have not until recently communicated with the State Board of Education pursuant to the resolution of the Society at its last meeting, as it was considered undesirable to in any way hamper the various educational boards prior to the appointment of inspectors.

A communication addressed to the chairman of the State Board of Education was recently sent, also copies of the Transactions of the Medical Society of New Jersey for the years 1899–1900. Your committee recommended that a circular of information be prepared under the direction of the State Board of Education, for distribution to the local educational boards, which should definitely set forth the law and define the duties of medical inspectors of schools, in order that a uniform method of the administration of the law may be adopted in every community in which inspectors are or may be appointed.

The card system suggested by Dr. Henry Mitchell in 1900 report in progress of medicine before the state society is recommended for use in place of record books.

The following salient points were specified in detail as suggestions to the State Board of Education for use in formulating the circular:

FIRST.—The educational boards, to which the inspectors are

responsible under the law, shall assume full control, and health boards or health officers shall only be called upon to assist in the work when the duties of one overlap the duties of the other, or when requested to act in an advisory capacity.

SECOND.—The medical inspector should keep all of the records which the law directs, in suitable books or cards of a uniform character specially prepared for use throughout the state. Each pupil should be examined at least once in every school year for the detection of physical defects or disease of the organs of special sense, especially of sight and hearing, and for the presence of spinal curvature or other bodily deformity. There should also be notes of the record of each pupil, as kept from year to year, indicating the growth and development of such pupil.

THIRD.—The duties of the medical inspectors in relation to lectures of instruction to teachers are of great importance and should not be neglected. The teachers should be thoroughly conversant with the methods to be employed in the detection of the first signs of communicable disease. Their instruction should include also under the head of the "Recognized Measures for the Promotion of Health and Prevention of Disease," a complete understanding of the essentials for a perfect hygienic condition of the school rooms. The use and operation of the mechanical appliances used for heating and ventilation should be appreciated. If a ventilating apparatus is not used, instruction in relation to the best methods of admitting fresh air through the natural channels, when opportunity occurs, without exposure of the pupils to draughts, must be considered. Attention should also be given to the adjustment of school desks and seats to the bodily requirements of the pupils, to the admission of sufficient light from the proper direction, and to such other matters as pertain to the physical well-being of the pupils. The fact that the complete success of the operation of the law depends upon the teachers, who are in reality executive officers, constantly present in the school room, is an indication of the importance of the thorough instruction advised.

Your committee feel that it is possible under the present law to secure very satisfactory results, providing that the educational board of the state will undertake to secure the uniformity of method in the administration of the law suggested in every community where medical inspectors have been or may be appointed.

Respectfully submitted,

WALTER B. JOHNSON, *Chairman.*

REPORT OF COMMITTEE ON ABUSE OF MEDICAL CHARITY.

Inasmuch as there was considerable doubt expressed at our last annual meeting as to the practicability of legislative control in the regulation of medical charity, your committee have deemed it best to defer the formulation of a legislative bill until it could obtain at this meeting a renewed approval of the plan suggested. Your committee is still of the opinion that anything other than an act of the legislature will be of little avail in the lessening of the abuse of medical charity, but it desires a more general expression of views upon the subject, which will determine the popular opinion of the members of the Society. Unless there be decided evidences of sympathy with the recommendation of the committee, any further action seems inadvisable.

Respectfully submitted,

GEO. H. BALLERAY,
JOS. S. BAER,
F. D. GRAY,
T. Y. SUTPHEN, *Chairman.*

REPORT OF THE COMMITTEE ON THE ESTABLISHMENT OF A STATE SANITORIUM FOR THE TREATMENT OF TUBERCULOUS DISEASES.

The committee appointed by this Society, at its last meeting, to adopt measures toward the establishment of a sanitorium for the treatment of tuberculous diseases in this state, would respectfully report that, at the call of ex-President Halsey, a meeting was held at the Trenton House in Trenton on February 11th, at which were the following members: Drs. L. M Halsey, Elmer Barwis, J. P. Hecht, E. W. Hedges, A. C. Hunt, William Jones, G. E. Reading, B. A. Waddington, E. Sheppard, A. W. Taylor and H. W. Elmer, and organized by the election of H. W. Elmer as Chairman, and G E. Reading as Secretary. The object of the meeting was stated by Dr. Halsey, and as an admirable bill (No. 45) had already been introduced in the Senate by Mr. Hutchinson, at the instance of the Mercer County Medical Society, after a lengthy discussion and some alterations, this

was adopted as the bill authorized by the State Society. Drs. Halsey, Barwis, Sheppard and Hecht were appointed a sub-committee, to whom should be entrusted the supervision of the bill when presented to the Legislature. The chairman and secretary were requested to communicate with Senator Stokes, chairman of the Committee on Appropriations, soliciting a hearing at an early date, and communications were sent to the secretaries of the District Societies, urging them to correspond with Senator Stokes, appealing for substantial support of the bill

After considerable delay a hearing was granted, and in their appeals before the Committee on Appropriations, we were ably assisted by addresses from Drs. Flick, of Philadelphia, and Knopf, of New York, who have devoted special study to like institutions. Drs. Barwis and Halsey appeared in behalf of the Society.

The advantages already derived from the establishment of sanitoria in other States and countries, resulting in the cure of the incipient cases of tubercular diseases, the prolongation of life or the amelioration of suffering in the incurable, were clearly shown, but no appropriation was made, owing to the fact, as stated, "that the drain on the State's treasury had already been so great."

At a meeting of the Burlington County Society (to which this Society's committee was invited), the subject of sanitorium was discussed, a committee was appointed to act in conjunction with this committee, to urge the different District Societies to take up the matter of the education of the laity on this important topic, to use the public press and to distribute circulars freely to the public, to urge individual members to interview legislators, and secure favorable action when the bill should be introduced. Burlington County's action has been endorsed by Gloucester and Salem, and we would urge all District Societies to fall into line, feeling that if this plan is faithfully carried out, it will be productive of most excellent results.

While your committee is not able to report any flattering progress toward the end for which it was appointed, yet it feels that it has accomplished a reasonable amount of success, and that the prospects for the future are very encouraging. The interest in the subject shown by the District Societies is marked. The American Climatogical Society, at its last meeting held at Niagara Falls, passed resolutions heartily endorsing the establishment of sanitoria for the treatment of the tuberculous poor, and other facts show the interest taken by the profession and laity.

We would, therefore, recommend either the continuance of the present committee or the appointment of a new one, who should have charge of this matter, believing that in the coming year considerable progress can be made toward the establishment of such an institution within our borders. Respectfully submitted.

H. W. ELMER,
Chairman.

JUNE 25, 1901.

SENATE, No. 45.

STATE OF NEW JERSEY.

Introduced January 28, 1901.

BY MR. HUTCHINSON.

Referred to the Committee on Appropriations.

AN ACT to establish a sanitorium for the treatment of tubercular diseases, and to provide for the erection, government and maintenance thereof.

BE IT ENACTED, *by the Senate and General Assembly of the State of New Jersey:*

1. That the Governor, with the advice and consent of the Senate, shall appoint six persons, three of whom shall be regular physicians in good standing, who shall constitute the board of trustees of the New Jersey sanitorium for tuberculous patients, and who shall hold office for the terms of one, two, three, four, five and six years respectively, beginning with the first day of April in the present year, and until their respective successors are appointed and qualified; and previous to the first day of April in each year thereafter the Governor shall, in like manner, appoint one such trustee, to hold office for the term of six years, beginning with the first day of April in the year of his appointment, and until his successor is appointed and qualified; any such trustee may be removed by the Governor for such cause as he may deem sufficient, and shall be assigned in the order of removal; any vacancy occurring in said board shall be filled in like manner for the unexpired term; the said board of trustees shall serve without compensation, and shall immediately organize by electing a president, secretary and treasurer.

2. The lands held by such trustees in trust for the state, for the

use of said sanitorium, as hereinafter provided, shall not be taken for street, highway or railroad without leave of the legislature specially obtained.

3. As soon as may be, after organization, said board of trustees shall procure offers of sites for the location of said sanitorium, with the prices thereof, and shall procure plans for the said sanitorium building or buildings to be made, with estimates of the cost thereof, necessary to properly fit said buildings or building for the purposes of said sanitorium, and report the same to the Governor with their recommendation thereon, and upon his approval, are authorized to enter into contracts for the purchase of such site, and the erection and equipment of said sanitorium; *provided, however*, that the expenditure for carrying out the purposes of this act shall not exceed fifty thousand dollars.

4. No member of the board of trustees shall be directly or indirectly interested in any contract in connection with said sanitorium, or with the furnishing of supplies for said sanitorium, and the violation of this section shall be a misdemeanor.

5. The board of trustees shall not order the expenditure of any money, or make any contract or contracts, except by a majority vote of all its members, which vote shall be taken by yeas and nays, and entered on the minutes of said board of trustees.

6. Said board of trustees shall have the general direction and control of all the property and concerns of said sanitorium, not otherwise provided by law, and shall take charge of the general interests of said sanitorium, and see that the objects and designs thereof are carried into effect, and everything done faithfully according to the requirements of the legislature and the by-laws, rules and regulations of said sanitorium.

7. The said board of trustees shall make rules and regulations for the government of said sanitorium; they shall make all needful by-laws, rules and regulations for the government of the proceedings of said board of trustees, and shall fix the terms for care and board upon which all persons who are able to pay their board shall be admitted to said sanitorium; but no person shall be refused admission to said sanitorium because of his or her inability to pay; they shall appoint all consulting medical directors and assistant physicians, employees, nurses and servants, and fix their compensation; all rules and regulations made by said board of trustees in pursuance of this section shall be made subject to the approval of the Governor.

8. Said board of trustees shall have authority to recover, for the use of said sanitorium, any and all sums which may be due upon any note or bond in their hands belonging thereto; also any and all sums which may be charged and due, according to the by-laws, for the support of any patient therein, or who may have been therein, in which action the declaration may be in a general indebitatus assumpsit, and judgment shall be rendered for such as may be found due, with interest from the time of the demand made by the treasurer of such payment; said board of trustees may also, upon the receipt of the money due upon any mortgage belonging to said sanitorium, execute and acknowledge, or cause to be executed and acknowledged, a release thereof, so that the same may be discharged of record.

9. It shall be the duty of said board of trustees to visit said sanitorium at least twice in each year, and to inspect said sanitorium and management, and to make, in their annual report, such recommendations as they may deem necessary concerning said sanitorium.

10. This act shall take effect immediately.

ESSAY.

BY JOSEPH STOKES, M.D., MOORESTOWN, N. J.

THE DIAGNOSIS OF INTESTINAL PERFORATION IN TYPHOID FEVER.

Every fresh discovery in medicine or surgery, every improvement in methods of treatment, brings the physician added responsibility. Before aseptic methods made possible the free and safe exploration of the abdomen, the treatment of a case of peritonitis was a comparatively simple matter. Surgical relief being impossible, the physician, after using opium freely, and possibly calomel, knew that little more of real value remained, and, be the outcome what it would, felt that he had made use of all the means that the science of that day had placed at his disposal. Now we know that the old "idiopathic peritonitis" scarcely exists, that practically every case, outside of traumatism, arises from some definite cause in one of the abdominal organs, and it is our first duty to discover this cause as promptly as possible, knowing that in the majority of cases early surgical intervention will remove it and save a life.

This is abundantly exemplified in the history of the treatment of appendicitis. Thirty years ago the advocates of operation were rare, the bowels were "put in splints" by opium, and if the patient died the attendant had exhausted the resources at his command, and rested comfortably in this knowledge. To-day, when the advances of our art have made the services of the surgeon of paramount importance, the attending physician at the onset of appendicitis spends many anxious hours in making sure of his diagnosis, and in deciding when surgical intervention is necessary. Accurate early diagnosis is indispensable.

This history of appendicitis is now being repeated as to perforation of the bowel in typhoid fever. Formerly in the presence of this most serious, and at that time practically hopeless complication, the physician gave opium, and awaited the inevitable result. He had done all that was possible then, and an accurate diagnosis at the onset was of

little importance. To-day the statistics shown by our surgeons—25 per cent. to 33 per cent. of recoveries—should awaken us to our responsibility, and lead us to study most carefully the symptoms of this complication. If operation is to be of any benefit it must be done promptly, before serious infection of the peritoneum occurs, and to recognize the true condition at the earliest possible moment is vital. Delay means death.

The picture of this accident which up to the last few years has been presented by the text-books to the profession has been a misleading one. I quote from the classical work of Dr. Geo. B. Wood:

"The patient is suddenly seized, without any premonition of danger, perhaps when in the midst of convalescence, with violent pains in the abdomen, which is also exceedingly tender to the touch. Sometimes there is no pain, but only tenderness. The knees are drawn up, and the face assumes an anxious, and even ghastly expression. Rigors, an extremely frequent and contracted pulse, obstinate vomiting and constipation are also frequent symptoms. A collapse of the circulation and of the surface precedes death, which usually takes place within a day or two."

This pictures a sudden, overwhelming catastrophe, which leaves the attendant in no possible doubt as to the condition, and gives no hint of the uncertainty which hangs over it during the first few hours. Yet this description, with slight varations, has been practically repeated down almost to the most recent text-books. All speak of sudden pain, collapse, feeble running pulse, cold, moist skin, and rapid death. Only in the past few years has it been recognized that the perforation has usually taken place several hours before marked symptoms begin. As is well said by Osler:

"The time-honored picture of perforation, with the hippocratic facies, the feeble running pulse, the profuse sweat, the distended motionless abdomen, must be erased, as not a picture of perforation, but of peritonitis, or better still, as a rough draft of death."

Drs. Strattuck, Warren and Cobb, of Boston, who have recently contributed a most careful study of twenty-one cases, and whose paper is a model of what such a study should be, say:

"The diagnostic symptoms of intestinal perforation, as usually understood, namely, sudden abdominal pain, fall of temperature, collapse, general abdominal rigidity and tenderness, with or without vomiting, and anxious facies, do not present themselves as a complete picture in any one of these cases."

Of course, just as in the rupture of an appendiceal abscess, a fulminant septic peritonitis frequently develops with lightning-like rapidity, so in typhoid perforation the early symptoms are occasionally merged so quickly into those of violent abdominal infection, that it is almost impossible to describe the former as distinct from the latter, but we must bear in mind the fact that they are the symptoms of peritonitis and not of perforation pure and simple. This class includes about 25 per cent. of the cases.

In discussing the symptoms of perforation I shall endeavor to confine myself to the early and most important signs, and to say little about the aspect of the case when septic peritonitis has fully developed.

Perhaps the most important of the early symptoms is pain. Only in rare cases is this absent, though in the severe comatose forms of the disease it may escape observation on account of the obtuse condition of the patient's intellect. Its onset is usually sudden, coming without warning during the third week, in most cases. While generally severe, it is not always so in the beginning, and we must not allow ourselves to be deceived by its mildness. Its severity, however, in most cases, increases rapidly. It may be general throughout the abdomen, or in a large proportion of cases is located in or near the right iliac fossa and closely resembles that of appendicitis. To one whose mind is imbued with the classic picture of the old text-books, it is a surprise to find in most cases just at first so little evidence that he is face to face with so serious a condition. A case in the recent experience of the writer impressed on him very strongly this fact. In this the pain, only moderate in character, developed in the lower right side of the abdomen, with slightly rigid muscles and slight tenderness; no change in temperature, no alteration in pulse, no clammy skin, no collapse, no abdominal distension, yet there was a perforation, and it was twenty-four hours before any more marked symptoms set in, and then was rapidly unfolded the whole picture of septic peritonitis.

Not all pain, however, in the course of typhoid fever means perforation. It has fallen to my lot to have seen at least five cases, typical in other respects, attended by severe abdominal pain during the greater part of the attack. One case otherwise normal required the constant administration of anodynes almost from beginning to end. Usually, however, pain of this character begins earlier in the attack than that of perforation, which is most frequently an accident of the third week. Occurring, however, at any time, it demands the utmost watchfulness.

Another symptom almost invariably associated with pain in the earliest stages of perforation is spasm of the muscles of the abdomen. This varies in amount, but usually is simply a slight rigidity on both sides, or on the right alone, and requires considerable care in the examination to detect it. When found it is most important, for there are few other conditions which give rise to it, and when associated with a sudden onset of abdominal pain in the third week of typhoid fever, it is almost pathognomonic.

Tenderness over the abdomen on pressure is usual, but it occurs so frequently in this disease that little reliance can be placed on it, other than to complete the picture.

A symptom which seems of some importance, but which has not yet been sufficiently studied, is leucocytosis. As is well known, in typhoid fever the number of white corpuscles generally falls below normal, generally to 4,000, and often to 2,000. In common with other forms of peritoneal irritation, the number rises quite rapidly after perforation, and may reach 11,000 or 12,000. This increase, however, is usually only transient, and after a few hours the number falls again. It will be evident, then, that if this symptom is to be of any value, its detection presupposes several important conditions. Inasmuch as accuracy is essential, it requires skilled assistance and a perfect technique. It requires that daily counts should have been made during the progress of the case, and when the accident is threatened or suspected, these counts should be repeated almost hourly, that the tide of increase of the leucocytes should be taken at its flood. It is perhaps needless to add that, outside of a perfectly equipped hospital and medical laboratory, the proper fulfilment of these conditions are far in the future.

In most cases but little is to be learned at the outset from either pulse or temperature, for no sudden marked change, as described by the older text books, comes over either of them. The pulse slowly increases in frequency and becomes weaker as the symptoms of peritonitis develop, but just at first there is little alteration. Occasionally the temperature suddenly falls for a few hours, and when this occurs in connection with sudden pain and rigidity of the muscles of the abdomen the diagnosis is clear, but the usual course is a slow rise, till in the fully developed peritonitis it is frequently high.

There are two symptoms which are almost invariably present in the peritonitis which follows perforation, but which are occasionally seen in the earlier stages. These are a shifting dullness in the flanks, show-

ing free fluid in the abdominal cavity, and a decrease of the area of liver dullness, due to the presence of air outside of the intestines. These symptoms should be carefully sought for, and when they do occur early they are often of the greatest assistance in making clear the diagnosis.

Nausea and vomiting are early symptoms in a small percentage of the cases.

There are certain conditions which at present it is almost impossible to distinguish from a perforated Peyers Patch. One of these is the rupture of a suppurating lymphatic gland, another a rupture of the appendix, which is not rare in typhoid fever, and finally, the possible, though not proven, preperforative stage of typhoid. If surgical intervention is decided on, the first two conditions demand it equally with the typhoid perforation, and the cases operated on when only a threatening perforation was found have usually done well, so an error in diagnosis is not serious.

There is much yet to be learned by accurate study of the early mild symptoms of perforation, and it is important for every physician whose lot it is to meet it to make and put on record most careful and minute observations of all the features of the case, especially all the phenomena of pain. Indeed, all through the course of typhoid fever pain is a symptom which needs careful study to differentiate its varied causes.

A consideration of the symptoms of perforation leads inevitably to the conclusion that, in spite of the accomplishment by our surgeons of what a few years ago would have been deemed impossible, it remains, and is likely to still continue, the most dreaded complication of typhoid fever. When we know that usually only a few short hours intervene between its occurrence and a violent septic peritonitis, when we see the uncertainty in many cases that during those hours hangs over the diagnosis, when we realize that prompt action during those hours is necessary, if surgical intervention is to be of any value, we will see that cases outside of our best hospitals have little chance. The victim of this accident in a country village, remote from a surgeon, whose perforation has occurred, perhaps, several hours before his physician has seen him, is practically doomed, and while the chance which operation affords should certainly be given him, little hope can be held out.

In concluding this short paper, I would say that if it has assisted in destroying in the mind of any one present the idea that perforation is

in most cases a sudden, overwhelming catastrophe, which instantly alters the whole appearance of a case of typhoid fever, and whose symptoms are so marked that the veriest tyro can at the outset interpret them; if it shall have brought out the fact that the important and essential symptoms are the early mild ones which precede the subsequent violent inflammation, and that these are the ones that demand the closest study and should determine our action, it has accomplished its purpose.

DISCUSSION.

DR. ALEXANDER MARCY, of Riverton, N. J.—*Mr. President and Gentlemen:* The paper which we have just listened to is certainly a very timely, as well as a very thorough one, and I think is deserving of more than passing notice.

The *early* diagnosis of intestinal perforation in typhoid fever is of the greatest importance if we wish to give our patients the benefit of operation. If we wait until their symptoms of septic peritonitis have fully developed, the chances for successful operative interference are very much lessened.

It is, then, to the earliest symptoms of this most unfortunate complication that we wish to give our attention. The first, and I believe the most important, as well as constant, symptom is *pain*, sharp, sudden, persistent pain, the location of which is variable, but usually in the right iliac region.

This is usually followed by increasing tenderness to the touch and a slight rigidity of the abdominal muscles. This condition always precedes the other symptoms, and when this occurs, particularly in the third week of the disease, we may at least suspect perforation. The other symptoms which surely follow, *e. g.*, dullness in the flanks, decrease of liver dullness, rigid abdominal muscles, changes in temperature, pulse, etc., are all of them due to the consecutive peritonitis which so speedily follows.

Therefore, I believe the most important and constant of the earlier symptoms is *pain*. This should be studied with the greatest care, in order to differentiate, if possible, between the pain of perforation and the pain caused by other conditions. Leucocytosis, as a symptom can be of little use outside a well equipped hospital.

It is astonishing what serious abdominal lesions can be produced with but few symptoms to indicate them.

I reported a case several months ago in which a young man was injured in a collision, where the only symptoms of serious injury were intense pain and slight tenderness to the touch, and yet at the autopsy, death having occurred within twelve hours, there was found a large, ragged perforation in the stomach, as well as in the duodenum.

And another case, in which there was an acute perforating round ulcer of the stomach, occurring within twenty-four hours after the first symptom of illness had been complained of, in which the only symptoms presenting themselves were pain and moderate fever until the symptoms of general septic peritonitis had developed, which occurred between my visit of the first day and that of the next.

It is hardly likely that we can expect to get very brilliant results from operation in these cases excepting in hospitals, and only then when each case of typhoid fever is carefully watched by competent nurses and capable internes. It is certainly the very plain duty of us all, however, to be constantly on the watch for any symptoms which would suggest perforation, and to give the patient the benefit of the doubt, if one exists, and advise early operation.

It is far better to operate on a case of suspected perforation and find that it does not exist than to let a patient die with a perforation unsuspected.

DR. LOUIS FAUGERES, of New York.—I wish to emphasize the extreme importance of the early diagnosis of intestinal perforations in typhoid fever. This was very forcibly impressed upon my mind less than a year ago when called in consultation upon a man who was said to have had a slight relapse. The moment I saw the man I knew what had happened, and it was the source of the deepest regret that I had not known this before, because then I could have brought with me a competent surgeon. This cost the man his only chance for life. This happens not only in the out-of-the-way places, but right in hospitals of a city like New York. I had a patient die in my hospital service because of a perforation which I did not recognize. We do not know as much as we should about the early symptoms of perforation. When a person is very sick and is suffering more or less pain all the time, the onset of perforation may be very obscure. There are, however, some points which should be borne in mind. We should remember the extreme importance of pain as a symptom. We are too apt to neglect complaints of very sick persons, and to incline to think that their complaint may be due only to a little flatus. Again, the rigidity of the abdominal muscles is another sign of the greatest importance in diagnosis. It should be looked for constantly in typhoid fever, particularly that form of rigidity which affects one side of the abdomen more than the other. The abdomen of a typhoid patient should be palpated frequently to discover the tone of the muscles, and when this rigidity appears it should not be disregarded. Leucocytosis is, of course, important, but the changes in the leucocyte count are so great from time to time that it takes away most of the value of this sign. The only value it can be said to have is that as we would usually find an increase in the leucocyte count we would be dis-

posed to operate. No perfect description of disease has ever been written; no physician has ever been able to indicate to another his knowledge of disease. Many have attempted classical descriptions, but they are all more or less a fallacy, because every physician must acquire the ability to diagnose a condition like perforation from the impression it makes upon him. The chief value of the paper under discussion is that it calls attention to the need for constantly being on the watch for the occurrence of this complication. I would suggest that whenever a consultant is needed in an advanced case of typhoid fever, a surgeon be called, and not wait for the consulting physician to advise the calling in of a surgeon.

Dr. PHILIP MARVEL, of Atlantic City.—I wish to emphasize one of the points which, I think, has been passed over too lightly, viz.: the leucocyte count. I regard this of considerable importance. When in doubt as to complications, we should always make a leucocyte count in typhoid fever, because in doing this we can eliminate the possibility of an associated peritonitis and other inflammatory involvements. In appendicitis, which occasionally accompanies typhoid fever, by the aid of the microscope, we can determine whether or not appendicitis or some other inflammatory condition is present. I am willing to admit that it requires the services of one skilled in the use of the instruments, and such skill is not always at hand, but in cases of such great importance, I think it behooves us to call in expert assistance. If we make a mistake with the microscope it is on the safe side, so far as the patient is concerned, but if we find by an early examination there is no leucocytosis, and, later on, intestinal perforation is suspected, at which time we have the classical symptoms present, and no increase in the

leucocytes, we are reasonably sure that there is a perforation. On the other hand, suppose there is a leucocytosis, and repeated examinations show that it is increasing, we are sure that there is a progressive inflammatory process, and whether it be due to peritonitis, as a result of perforation, or as a result of an appendicular inflammation, is a matter for the assistance of the surgeon. I do not think, therefore, that we should pass this point too lightly.

Dr. SHEPPARD.—I have been thoroughly impressed with the paper that has been read, and the discussion following it, and I rise to ask whether a general practitioner, and particularly a country practitioner, is justified in attending a case of typhoid fever, taking into consideration the distance that a patient must often be taken to get hospital care if such an accident occurs.

Dr. STOKES.—Theoretically, it may be true that we have no such right as general practitioners, but practically, it is impossible to do differently.

125° F.—THE PROPER TEMPERATURE FOR EAR DOUCHING.

BY TALBOT R. CHAMBERS, M. D., JERSEY CITY, N. J.

One year ago I had the honor to present before the section of Laryngology of the American Medical Association, a paper which called for the use of very hot water in the treatment of otitis media. The statements then made, that this is the best means of cure for such cases, especially where mastoiditis threatens, I desire to reiterate. This treatment has in my hands, and in the experience of my colleagues, aborted threatening mastoiditis, a number of times since that paper was published; and a number of my colleagues have told me on more than one occasion, "Your hot water treatment cheated you out of a mastoid operation."

At this time I simply wish to state my persistent belief in the value of having the ear douche at a temperature of from 120° to 130° F., and that such temperature be maintained for ten minutes at each seance, repeated as many times in 24 hours as the case may demand. Of course, this presumes that the douche goes to the bottom of the auditory canal, to the middle ear.

It would be wearisome and but repetition, if I should report all the cases which have been thus benefited. I will only refer to the disadvantages and discomforts of the treatment, and incidentally exhibit the little ear douche which makes the treatment possible and practicable.

Dr. N. L. Wilson, of Elizabeth, presented this ear douche before this Society three years ago.

I do not know who first introduced this appliance; it may have been Lucae, of Berlin. At any rate, in its improved form as made by the Davidson Rubber Co., of Boston, in rubber; and by F. Schumacher, of 74 Maple street, Jersey City, N. J., in glass, it is made in the most practicable manner, so as to fit the largest number of cases. With tact, there will be but few ears that will refuse to allow the douche to enter the canal.

Sometimes in a case of acute or chronic otitis media purulenta the skin lining the auditory canal is unduly sensitive and not infrequently excoriated. In such a case the very hot water gives pain. But I have seen just such cases greatly improved. Why? Because the discharge

is immediately diminished and less ichorous. There is, in the canal itself, a cleansing which is more thorough by this method than by any other with which I am acquainted. Especially in the hands of the patient, or of an indifferently skilled assistant such as is apt to be found in the majority of homes under our care, the directions are easily understood and pride is taken in faithfully carrying them out.

A two-quart fountain syringe, a bath thermometer registering to 130° F. and a rubber or glass ear douche; that's all. It is very simple.

If the germ be hay bacillus, the hot water with a little salt and soda bicarb added, one teaspoonful of each to the quart, will speedily cure; thus saving a mixed infection which would otherwise possibly and probably occur, changing a simple into a serious disease. In such a case, this is in the line of preventive medicine. If the culture shows the diplococcus pneumonia Frankel, the use of 50 per cent. Enzymol after the plain hot water douche will positively stop the running in four or five days. If the germ be streptococcus, staphylococcus, colon bacillus or mixed infection, the cure will be attained much quicker with the hot douche at the temperature of 125° F., and more certainly than by any other procedure. With these germs it is preferable to employ 1-4000 bichloride in the douche. Squeezing the tubing between the fingers keeps the two quarts of water from wasting after the canal has been thorough irrigated and freed from debris, when all that is necessary is the application of the heat to the middle ear.

The glass douche gets hot, and some people complain seriously that it burns. In such a case the rubber douche (after boiling) is proper and satisfactory. It may be used repeatedly, but never on a new case without previous boiling. The glass douches are so cheap, and the rubber ones are inexpensive, so that one or two of the latter and a dozen of the former should be kept on hand and furnished patients when needed, with suitable directions, which must be explicit.

Of course, local treatment in many cases is required. It may be essential to enlarge the opening in the tympanum, to remove polypi and granulations, and apply proper treatment to adenoids, hidden or exposed tonsils which are hypertrophied, and to nasal abnormalities.

THE USE OF ETHYL-BROMIDE AS A PRIMARY ANÆSTHETIC TO ETHER OR CHLOROFORM.

BY EMERY MARVEL, M.D., ATLANTIC CITY, N. J.

Since the discovery of anæsthesia the diligence of the medical profession has ever been manifest to secure a means by which the anæsthetic state might be secured, maintained and recovered from with less discomfort to the patient, and no greater risk to life, than that which is experienced by the use of ether. It is a marked commendation to the use of ether, that, being the first anæsthetic used, it has ever since held first place in merit of safety through these sixty years of apprenticeship and in competition with numerous other agents brought forward to supplant it. Of these agents, chloroform, nitrous oxide, ethyl-bromide, A.C.E. mixture, and other mixtures for inhalation; cocaine, eucaine and ethyl-chloride for local applications; chloroform is the only one that has received a favorable comparison with ether for anæsthesia necessary in major operative work. Of chloroform, it is claimed to be easier taken, more rapid in its action, and causing less discomfort during the post-anæsthetic stage; but while these conditions favor its use over ether, it is charged with being less reliable than ether when protracted anæsthesia is required. While ether is considered the safer drug, it is not used without many inconveniences and much that is discomforting to the patient. The protracted time required to produce anæsthesia; the struggles of the patient against the suffocating and strangling sensation; the stage of excitation and muscular contraction; the dyspnœa caused by excessive secretions of mucous in the bronchi, trachea and larynx, with its consequent cyanosis; the coughing caused by the irritation of some part of the respiratory tract, together with the tendency to vomit during the anæsthesia and the troublesome vomiting while recovering from the anæsthesia, are some of the discomforting symptoms which one might enumerate as worthy of mention. I am sure these conditions are familiar to every anæsthetizer, and each has hoped, with myself, for a means to remove some, or all, of these objectionable symptoms. Certainly any thing which promises to render anæsthetization easier for the patient, either by shortening the period of time required for him or her to become unconscious, or to lessen the unpleasant symptoms preceding, during, or following anæsthesia, should be given careful consideration by all who constantly make use of anæsthetics.

It was with this consideration that I first used ethyl-bromide for the induction of unconsciousness when ether or chloroform was to be used.

Its use was not original with me, and I am indebted for its suggestion to my colleague, Dr. Joseph Francis De Silver, who, I believe, observed its use, and used it himself, in the German Hospital of Brooklyn.

It is the purpose of this paper to give a report of my experience in the thirty-six cases in which I have used this method. In this report of the use of ethyl-bromide as a primary anæsthetic for ether or chloroform, I refer only to the use of ethyl-bromide for the induction of unconsciousness; it then to be followed by one of the other agents (ether or chloroform) for the complete and continued anæsthesia.

It is not my purpose to give the history of this drug, nor its chemical, nor its physical property; neither shall I deal with other uses of this anæsthetic than that to be followed by ether or chloroform; but those who wish information of its use relative to other provinces, may refer to the writings of Remington, Turnbull and Nunnelly, or to the more recent contributions from E. E. Montgomery and Wilmer Krusen.

The observations which I report here have been made in the Atlantic City Hospital, and for most of the records I am indebted to Dr. Sylvester Goodman, Dr. J. C. Marshall, Dr. J. L. Dougherty and Dr. F. C. Katherman, who have, at different times, while resident physician, employed this method for anæsthetizing patients for me.

The apparatus which we have used consists of a folded piece of gauze. This is placed in the palm of the anæsthetizer's hand, over which the fingers are partly flexed, forming by the hand a cone of sufficient size to snugly fit over the patient's nose. Upon this piece of gauze a fluid dram of ethyl-bromide is poured, and this quickly placed over the patient's nostrils. The patient takes full and rapid breaths, and unconsciousness is usually secured in a fractional part of a minute. Should the first fluid dram not be successful in securing unconsciousness at the expiration of a minute, an equal measure is repeated in the same manner as that of the first. In the thirty-six cases here reported, one fluid dram was sufficient in thirty-two—four requiring two fluid drams.

So soon as unconsciousness is obtained, ether or chloroform, whichever may be selected, is administered in the customary manner in which these respective drugs are given. I have failed to observe any interruptions in the progress towards complete anæsthesia at this time. The patient passing quietly from the unconsciousness of ethyl-bromide

into the state of complete anæsthesia, this requiring from two to five minutes. This state is sustained with greater ease and requires less of the second agent than when ethyl-bromide is not given.

The simplicity of this method commends itself, and strongly contrasts to that of other methods for combined anæsthesia, especially Bennett's method of using nitrous oxide and ether.

The ethyl-bromide is taken easily; seldom is there any resistance offered by the patient. The struggling is reduced or entirely removed, as is also the muscular contraction, the coughing, the increased bronchial secretion and mental excitation. The action of the anæsthetic is of such ease and rapidity that the anæsthetizer rarely or never needs assistance in his work. There has been but one case in our experience where an excessive amount of mucous has been present, and this not to the amount to cause much inconvenience. Cyanosis has never shown itself in any case here noted, nor have we experienced any unfavorable influence upon either the action of the heart or upon the respiration by its use. In fact, instead of producing strangling, coughing, spasms of the larynx, and excessive secretion, the reverse is the result. Ethyl-bromide acts as a sedative to the mucous membrane of the respiratory tract. This sedative influence is maintained during the inhalation of the ether. The tendency to vomit during and after ether inhalation seems to be reduced but not entirely removed.

The following record chart may give some idea of the time required to obtain unconsciousness and complete anæsthesia; also the amount of the respective anæsthetics required to produce and sustain anæsthesia for the time required in the different operations enumerated.

For the thirty-six operations here enumerated ether was used in twenty-one and chloroform in fifteen. The advantage which ethyl-bromide affords when given previous to chloroform is slight. The shorter time required to produce unconsciousness is probably the only one, and this is so slight that I should not feel justified in using the combined method except in very rare cases, such as insane, delirious and marked hypersensitive patients. With ether it is different. Here the benefits are most pronounced. The advantages of this method are so distinct to the patient, the surgeon, and the anæsthetizer, that it seems to use ether alone is a neglect of the best considerations. To the patient these advantages are the rapidity with which he or she becomes unconscious and completely anæsthetized, the freedom from the unpleasant symptoms during the process of anæsthetization, the

diminution in the unpleasant after-symptoms, especially nausea. To the surgeon, the great advantage is the shortening of time. To the anæsthetizer, the advantages are the combination of the proceeding. To these advantages must be added the much diminished quantity of ether employed and the shorter time required by the patient to recover entirely from the effects of the anæsthesia.

I have been unable to observe any disadvantage in the use of this method, unless it be the odor of garlic on the patient's breath, that persists for some hours afterward, but of which I have never heard a patient complain.

RECORD CHART.

OPERATION.	Age.	Sex.	Time required to produce unconsciousness by Ethyl-bromide.	Time required for complete anæsthesia by ether.	Time required for complete anæsthesia by chloroform.	Amount of Ethyl-bromide used.	Amount of ether used.	Amount of chloroform used.	Time anæsthesia was given.
			m. sec.	min.	min.	dram	gr'm	fl. oz.	h. min.
Appendectomy, complicated..	27	F	1 45	4	..	1	75	..	1 25
" "	58	M	1 15	4	..	1	125	..	1 20
Dil. and curettage.....	28	F	45	..	3	1	..	2	30
" "	30	F	30	..	3¼	1	..	2½	35
" " and trachellor.	33	F	25	3½	..	1	150	..	1 30
Appendectomy..	19	F	45	4	..	1	90	..	45
Ligation femoral artery.....	38	M	1 45	8	..	2	75	..	20
Exc. popliteal aneurism.....	38	M	55	5	..	1	200	..	1 25
Dil. curett and exc. vulva cyst.	27	F	20	..	2½	1	..	2	45
Enucleati'n of eye and removal frag. of bone.....	44	M	20	3	..	1	175	..	1 30
D. & C. & trochellorrhophy .	38	F	1 15	5	..	1	100	..	1 15
D. & C. & troch. & perinor...	37	F	45	..	2¾	1	..	4	1 20
Appendectomy	25	F	50	..	3	1	..	4½	53
Coccydocectomy.....	45	M	1 45	..	4	1	..	3	55
Exc. lipoma of chest.....	46	F	45	..	4	1	..	3½	45
Appendectomy	26	M	40	4	..	1	80	..	40
Hysterectomy, complete.....	43	F	50	5	..	2	150	..	2 15
Inguinal adnectomy.....	27	M	35	..	4	1	..	2½	35
" "	27	M	30	..	3	1	..	2½	25
Circumcision.....	3	M	20	..	2	1	..	1½	15
Appendectomy.....	16	M	25	3	..	1	90	..	30
Curett & clos. abd. wound....	34	F	40	4	..	1	110	..	35
Inc. & cleansing inf. hand....	49	M	45	..	3	1	..	2	20
Doub'l ovariotomy & vag. sec.	23	F	30	4	..	1	150	..	1 15
Vaginal section.....	23	F	35	..	2	1	..	2	20
Hemorrhoids	21	M	25	3	..	1	40	..	20
"	24	M	25	..	3	1	..	4	30
Appendectomy.....	18	M	20	..	3	1	..	2½	30
"	17	F	30	3	..	1	80	..	40
"	27	M	35	3½	..	1	90	..	30
" complicated..	58	F	1 05	2½	..	1	100	..	40
Salpingo öophorectomy.....	21	F	32	3½	..	1	100	..	1 10
Curett & cl. abd. wound.....	21	F	32	..	2½	1	..	2	15
Evac. post caecal abscess.....	58	F	20	4	..	1	60	..	45
Salpingo öophorectomy.....	27	F	38	4	..	1	90	..	35
Appendectomy.....	0	F	18	3½	..	1	50	..	35

REMARKS ON THE DIAGNOSIS AND TREATMENT OF EARLY ECTOPIC PREGNANCY.

BY G. H. BALLERAY, M.D., PATERSON, N. J.

There are few subjects in medicine of greater interest to the general practitioner, as well as the operating gynecologist, than ectopic pregnancy. It is only within the last twenty years that this subject has been studied in a manner to develop a knowledge of its causes, diagnosis and treatment; and to Lawson Tait, more than to any other man, living or dead, belongs the credit of having placed the pathology of extra uterine pregnancy upon a rational basis. Tait not only clearly pointed out the pathology of ectopic pregnancy, but, by his example, taught us how to cope with this serious condition.

The almost endless variety of ectopic pregnancy described by the older writers existed in their imaginations only, and their prolix descriptions were better calculated to confuse the reader than to enlighten him.

At present the cause of ectopic pregnancy is admitted to be some abnormal condition of the Fallopian tube, and it is generally conceded that almost all cases of extra-uterine gestation are primarily tubal—the varieties described by the older writers being but accidental modifications of tubal pregnancy.

My remarks will be limited to the diagnosis and treatment of ectopic pregnancy in the early months; its diagnosis and treatment at, or after, full term is so thoroughly considered in several classical works that it would be useless to repeat it here.

The diagnosis of ectopic pregnancy in the early months, before rupture of the gestation sac, may present considerable difficulty, but that it is impossible, as some writers have claimed, is very far from the truth. I do not claim to possess any special diagnostic skill, and yet I have been able to diagnose extra-uterine gestation, at this time, on several occasions, the diagnosis in each case being verified by abdominal section.

Frequency.—As regards the frequency of extra-uterine pregnancy, I may say that, contrary to the opinion entertained by many in the profession, even at the present day, it is of comparatively frequent occurrence.

In 1897 I saw seven cases of extra-uterine pregnancy in eight

months; and during the previous year, within a single month, I operated successfully upon three cases of ruptured tubal pregnancy. During the present year (1901), since the first of February, I have met with seven cases of ectopic pregnancy. Two of these cases occurred in the practice of my colleagues at the Paterson General Hospital—Drs. James M. Stewart and John R. Merrill. Both of these gentlemen had made the diagnosis before I saw the patient. In Dr. Stewart's case rupture had already taken place: the abdominal cavity was full of blood, and the patient's condition was desperate. The operation was performed as quickly as possible, and under active stimulation the patient rallied and made a good recovery. In Dr. Merrill's case the diagnosis was made and the operation performed before rupture, and the patient made an excellent recovery. These patients owe their lives, not to the operator, but to their family physicians, who had the intelligence to properly diagnose the nature of their ailments.

All of the other cases recovered except one In that case the patient had been allowed to slowly bleed to death into her abdominal cavity. She was admitted to the hospital actually in articulo mortis. She was cold, almost entirely pulseless, and had the waxy lips of complete exsanguination.

One of the hospital physicians who saw the patient before the operation remarked that if I did not begin the operation post mortem I certainly would finish it post mortem. The operation was quickly performed. The abdomen was full of blood. The right tube, the seat of the ruptured gestation sac, was ligated and removed, the procedure being carried out under a constant flow of blood, which kept welling up from the abdominal and pelvic cavities. After cleansing the peritoneal cavity of blood the patient was put to bed. Her condition was no worse than at the beginning of the operation, but in spite of all measures to procure reaction, she died in fourteen hours. At the post mortem it was found that the technique had been as perfect as if the operation had been performed under less embarrassing conditions. Had this patient been operated on earlier she would undoubtedly have recovered. It was a case of death from the procrastination of the family physician, and, as far as the operation was concerned, it was the doing of the *right* thing at the *wrong time.*

I have repeatedly operated on cases in which the amount of blood in the peritoneal cavity was even greater than it was in this case, and the patients have recovered. The resisting power of the

patient has much to do with the result. In this case the patient was a poorly nourished creature, with feeble powers of resistance, and had not enough of vitality to react after the bleeding had been controlled. It may be interesting in the connection to state that I have successfully operated upon two cases of double ectopic pregnancy, and also upon two cases of combined intra and extra-uterine gestation.

It is highly important that the physician engaged in general practice should be fully alive to the comparative frequency of extra-uterine pregnancy. He will then be on the alert, and will not be liable to overlook the condition simply because it does not present the whole array of classic symptoms. It is he who generally sees the case first, and upon his early recognition of its true nature will often depend the issues of life or death.

Diagnosis.—The diagnosis of ectopic pregnancy in the early month, before rupture of the fœtal sac, is based upon the history and result of a physical examination. In a certain proportion of cases, the history is such as to create a strong presumption in favor of the presence of this condition. On the other hand, the history is often misleading, and in a large proportion of cases there is absolutely no history beyond the fact that the woman presented the usual symptoms of pregnancy and believed herself to be normally pregnant. In the latter case rupture of the sac is the first indication that anything abnormal exists. This terrible accident may then suddenly occur, absolutely without premonition. It was formerly believed that extra-uterine pregnancy occurred almost invariably in women who had previously been sterile; *i. e.*, who either had never been pregnant or had not borne a child for a long period prior to the occurrence of the abnormal gestation. That sterile women are more likely to become subjects of extra-uterine pregnancy than those who have frequently borne children is probably true, but, at the bedside, neither previous sterility or fecundity should be allowed to enter as a factor in the diagnosis. It should be remembered that all women during the child-bearing period are liable to the occurrence of extra-uterine pregnancy. If this is borne in mind, fewer blunders in diagnosis will occur, and fewer lives will be sacrificed by that criminal procrastination which defers until too late the only rational means of saving the patient's life.

In a typical case, the history of the patient is about as follows: There has been a cessation of the menses for one, two or three months, during which time the patient may or may not have experi-

enced some of the symptoms which are supposed by her to be indicative of the occurrence of pregnancy, such as morning sickness, tingling sensations in the breasts, etc. After a time, varying in different cases, she begins to experience colicky pains in the lower part of the abdomen, accompanied by a discharge of more or less blood from the vagina. The blood is sometimes fluid, sometimes clotted, and occasionally shreddy substances are noticed in the discharge by the patients or by those in attendance. Mixed with the vaginal discharge a membraneous mass, resembling a cast of the uterine cavity, is occasionally expelled. These symptoms (loss of blood and colicky pains) may disappear, to again return at intervals of a few days, or the flow of blood may be almost continuous and the colicky pains rarely absent for more than a few hours at a time, although they may not be sufficiently severe to confine the patient to bed or require the administration of anodynes.

The flow of blood is rarely profuse, almost never resembling the active bleeding accompanying an early abortion. The typical symptoms, then, are amenorrhea, followed by irregular discharge of blood from the vagina, recurrent colicky pains in the lower part of the abdomen, and occasionally the discharge of portions of deciduous membrane.

Upon physical examination the uterus will generally be found enlarged, if gestation has continued beyond the second month. The softness of the cervix, which is so marked, as a rule, in normal pregnancy, is not always present in ectopic gestation. I have observed it in three cases. In multiparæ the os is sometimes patulous. On one side of, and sometimes behind, the uterus, a soft, resilient mass, varying in size according to the stage of the pregnancy, can usually be detected. On careful bimanual examination it is found to be very close to the body of the uterus, and seems to crowd the organ somewhat to the opposite side of the pelvis. It is, as a rule, not difficult to make out that it is not continuous with the body of the uterus. Examination per rectum sometimes enables the practitioner to correctly appreciate the relations of the tumor.

The changes in the breasts, characteristic of pregnancy, may, or may not, be present. In a case presenting this history, and the physical signs detailed above, there should not be much hesitation on the part of the practitioner in coming to a conclusion in regard to the presence of ectopic gestation. If, however, he remains in doubt, an

anæsthetic should be administered and another careful examination made. Emptying of the bladder and rectum should precede this examination, as, indeed, it should all examinations of the female pelvic organs.

Differential Diagnosis.—The following hints may aid in the differential diagnosis between early ectopic pregnancy and the conditions for which it is likely to be mistaken. In retroflexion and lateroflexion of the gravid uterus, the tumor behind or to one side of the cervix is continuous with it. The cervix is enlarged and softened, and the fundus not in its normal position behind the pubes. There is no colicky pain, and no bloody vaginal discharge—unless an abortion is impending or has recently occurred. In hydrosalpinx, pyosalpinx, ovarian abscess, small adherent ovarian cysts, and small cysts of the broad ligament, the uterus is not enlarged and the usual signs and symptoms of pregnancy are absent, unless a normal pregnancy coexists. Recurrent colicky pains and irregular bloody discharges from the vagina are not usual accompaniments of these conditions.

In acute pyosalpinx and ovarian abscess, more or less constant pain and tenderness on pressure are present, accompanied by elevation of temperature.

In small myomata, the body of the uterus is enlarged, but the menstrual flow is not suppressed, and there is no semi-fluctuating or boggy mass on either side of the uterus.

Early pregnancy in the rudimentary horn of a malformed uterus cannot be differentiated from ectopic pregnancy: nor is it essential that it should be, as the treatment is operative in both. Pregnancy in one horn of a well-formed bicornate uterus may be distinguished from ectopic pregnancy only in cases in which a vaginal or cervical septum exists. In the absence of this distinguishing feature the diagnosis must remain doubtful. From pregnancy in one-half of a double uterus the differential diagnosis may be easily made if, in addition to a well-formed double uterus there is a double vagina. In a case which I saw with my colleague, Dr. Harris, this condition obtained.

The patient had symptoms which made the physician apprehensive of the existence of ectopic pregnancy, but after a careful examination it was concluded that pregnancy had occurred in the right half of the uterus. Both cervices were well developed, and the os uteri of each was normal in appearance. Our determination to wait was rewarded in a few days by a verification of the diagnosis, for the patient aborted.

In hæmatosalpynx both ends of the tube are closed by inflammation, and the bloody fluid may accumulate until the tube becomes so dilated as to form a tumor the size of an orange. I have operated on three such cases. The diagnosis between hæmatosalpynx and ectopic pregnancy rests upon the history. In true hæmatosalpynx all the symptoms of pregnancy are absent. Extra peritoneal hæmatocele, or pelvic hæmatoma is, in my opinion, almost invariably due to rupture of an early tubal pregnancy into the cellular tissue between layers of the broad ligament. It is, therefore, a complication of tubal pregnancy, and should not be spoken of as a special lesion, as is generally done in works on gynæcology.

Diagnosis After Rupture.—The diagnosis after rupture of the gestation sac is based upon evidence of abdominal shock and concealed hemorrhage. Violent pain in the lower part of the abdomen, followed by symptoms of collapse, is the rule in all cases of intraperitoneal rupture attended by profuse hemorrhage. When the hemorrhage is less profuse, the symptoms of collapse come on slowly. Cases in which the Fallopian tube, the seat of ectopic gestation, is perfectly free in the pelvic cavity previous to rupture, are, as a rule, attended by more profuse hemorrhage than those in which the tube is bound to surrounding structures by adhesions. The hemorrhage is generally out of proportion to the development of the gestation sac; the earlier the rupture occurs the more rapidly fatal the hemorrhage.

Rupture Between the Layers of the Broad Ligament.—When rupture occurs between the layers of the broad ligament, the evidences of shock and loss of blood may be marked, but rarely to the same extent as when it occurs into the peritoneal cavity.

When the effusion of blood is large, in addition to the severe pain following the rupture, there is a sense of bearing down, as if the contents of the pelvis were being forced from the body. This bearing down sensation is quite characteristic of this form of rupture, and is entirely absent when the blood is poured into the general peritoneal cavity.

The differential diagnosis rests upon the result of a physical examination. A large, soft, boggy mass is found on one side of and posterior to the uterus. The uterus is crowded to the opposite side, and the cervix is pushed under the pubes, and, in a large proportion of cases, the os uteri seems to point directly upwards. I know of no other condition which gives rise to this peculiar form of uterine dis-

placement. I regard it as a sign of the greatest diagnostic value. If a physician previously makes a vaginal examination and detects a small mass on one side of the uterus, its sudden increase in size, accompanied by symptoms of shock and concealed bleeding, can be due to but one cause, viz., intraligamentous rupture, with hemorrhage between the layers of the broad ligament.

When rupture of an early tubal pregnancy into the peritoneal cavity occurs, any small mass, situated on one side of the uterus, which may have been previously detected, will generally be found to have disappeared, unless the pregnant tube is bound down by adhesions, and the effused blood, to a certain extent, encapsulated.

Treatment.—The treatment of extra-uterine pregnancy should be purely surgical. All other methods should be condemned as both inefficient and dangerous. If the diagnosis is made before rupture has occurred, the abdomen should be opened and the gestation sac removed. If the rupture has already occurred, not a moment should be lost in resorting to abdominal section, for a very brief delay may result in death of the patient from hemorrhage. When the abdomen is opened there is generally an escape of fluid blood, and the pelvis is found filled with blood-clots, through which the surgeon passes his fingers to the fundus of the uterus, and then along the broad ligament on each side until the site of the gestation sac is determined. The sac is immediately brought to the surface, securely ligated at its base, and cut away. The abdominal and pelvic cavities are then flushed out with hot saline solution and sponged until free of blood. If the hemorrhage has been great, and the patient is much depressed, hot saline solution should be injected into the rectum and into the cellular tissue beneath the breasts. Brandy or good whisky may be given with the saline solution, and may also be given by the mouth in small doses frequently repeated, and in very hot water, as hot as the patient can bear. Morphine and strychnine administered hypodermically are generally indicated. When the patient has reacted her strength should be supported by nutritious liquid diet.

Intraligamentous Rupture.—When rupture of an early tubal pregnancy occurs, and the fœtus (fœtal débris) and effused blood escape between the layers of the broad ligament, constituting what was formerly known as extraperitoneal hæmatocele, but now designated as hæmatoma of the broad ligament, the interests of the patient will be best secured by letting her alone.

These cases, as a rule, are fatal only through the officiousness of the doctor. If the patient be kept quiet and intrusted to the vis-medicatrix naturæ, it will generally be found that at the end of a few weeks the effused blood and fœtal remains have been absorbed, and that nothing is left but a slight thickening of the broad ligament on the affected side.

The only exception to this rule occurs in cases in which suppuration of the hæmatoma supervenes, or in those very exceptional instances in which, after primary intraligamentous rupture, secondary rupture through the roof of the broad ligament, into the peritoneal cavity, occurs. Cases of the latter class demand prompt and decisive action. The abdomen must be opened, the cavity of the broad ligament emptied of clots and packed with iodoform gauze, an end of which should be brought out through an opening in the vagina for drainage. The rent in the roof of the broad ligament may then be closed with a fine catgut suture. If the hemorrhage cannot be controlled in this manner, hysterectomy should be performed. In suppurating hæmatoma of the broad ligament, vaginal section, washing of the cavity with a disinfectant solution and gauze drainage are indicated.

It will be observed that in the treatment of ectopic pregnancy in the early months, abdominal section is the only method which I have so far advised. The reason for that is, that I consider the operation by the abdominal route *the* operation in this class of cases. The operation through the abdominal wall gives more room for work; the manipulations are performed under the guidance of the sense of sight, as well as touch, and in cases of intraperitoneal rupture, with the accumulation of large quantities of blood in the abdominal and pelvic cavities, the cleansing of the peritoneal cavity can be more quickly and efficiently performed. In fact, the operation through the abdomen is the only operation which will save the patient in a case in which a large amount of blood has already been effused into the general peritoneal cavity and active hemorrage is still going on. Operation per vaginam in such a case would be tempting Providence and trifling with human life. Has, then, the operation through the vagina no *raison d' être?* It has! In cases in which the pelvic peritoneal cavity has already been walled off from the general peritoneal by inflammatory adhesions, prior to the abnormal gestation, the hemorrhage at the time of rupture occurs into a circumscribed space, which limits the amount of bleeding. This space can be opened from below, the

blood clots and fœtus removed, and the cavity packed with gauze, to prevent further bleeding. The placenta should not be removed, but allowed to disintegrate and come away piece-meal. The packing should be removed on the third or fourth day and the cavity irrigated. The irrigation and packing should be repeated every second day until the discharge from the cavity ceases and the patient is convalescent.

Summary.—The points I desire to emphasize are as follows:

1. Early ectopic pregnancy can be diagnosed before rupture has occurred, by a careful and painstaking examination per vaginam and per rectum, under anæsthesia, if necessary.

2. Abdominal section possesses many advantages over operation by the vaginal route, and should always be the operation of election, except under the circumstances referred to above.

3. All cases of ectopic pregnancy (except those in which intra-ligamentous rupture has already taken place) should be operated on as soon as the diagnosis is made. Delay may result in the death of the patient.

4. In cases of grave doubt as to the existence or non-existence of early ectopic pregnancy, in which, however, the presumption is strongly in favor of its existence, exploratory abdominal section should be unhesitatingly performed—"When in doubt, play trumps."

DISCUSSION.

Dr. P. A. HARRIS, of Paterson.—This very excellent paper of Dr. Balleray, which deals with the different conditions of ectopic gestation, is one of very great importance to every one of us. It is valuable, because the most important thing of all is to make the diagnosis of ectopic gestation; and yet nothing is easier. There are two or three points which must be kept very prominently before us. The first word of caution should be to throw aside the descriptions of ectopic gestation, written a few years ago, because we all know that when a woman becomes bloodless and faints and becomes thirsty and her pulse is rapid, we know that she is suffering from shock as a result of loss of blood. We recognize such a case, because we are familiar with the old descriptions of rup-

tured tubal gestation, and some of us have seen such cases clinically. But there is a much larger class of cases for which the old classical description of ectopic gestation will not answer, for the reason that the first indication of trouble is not what is put down in that old description. I believe that two-thirds of all the cases of ectopic gestation which I have seen have been those in which the pulse has not rapidly gone up, but in which the diagnosis has been made of ectopic gestation with the pulse under 95. I think in more than half of the cases of ectopic gestation that I have seen the pulse has not reached 85. It is important to remember this, or we shall overlook a great many cases of ectopic gestation on the occurrence of the first symptoms, and they may not be recognized until the occurrence of excessive hemorrhage, or some other grave symptom, at a time when perhaps it will be too late to save the patient. I think the author will bear me out in the statement that the diagnosis of ectopic gestation can be made frequently before the pulse goes above 85. These cases of tubal rupture occurring at a very early stage of tubo-gestation usually bleed very violently. They are the most dangerous cases, and in them the pain is very severe and the pulse runs very high without previous symptoms. In cases where rupture of the tube occurs later in the course of tubo-gestation, the pain is rather less severe and the hemorrhage rather less rapid, although eventually profuse. A woman who menstruates with entire regularity, and then goes five or six days over her time, is probably pregnant, and if she be pregnant and has some sympton for which she has called a physician, the thing for him to do is to find whether the pregnancy is within or without the uterus. He must decide this point at once. The finding of the fœtus is presumptive evidence that she has only

one pregnancy, and that within the uterus. If we will only remember that when a woman goes three, four, five, seven or ten days over her time, having previously menstruated with entire regularity, has some pain, and begins to have a flow of blood, a typical menstruation, that such symptoms points to ectopic pregnancy. To show you how rapidly the profession is becoming habituated to this new description of ectopic gestation, we need only refer to the early diagnosis now constantly made by the general practitioner of this condition. Quite recently a physician in Paterson made a diagnosis of tubal gestation with the first symptoms of rupture. (It was an office patient). He asked me to see the woman. I confirmed his diagnosis, and the next morning operated and found an unruptured tubal gestation. A little blood had been forced out in the abdomen. The tube had not ruptured, but I presume the membranes had ruptured and had caused the first pains, by further distention of the tube with blood. This case was operated upon before rupture of the tube, and I mention it to show that we must not wait until the violent symptoms appear, for if we do, we shall lose cases which more prompt operation would have saved.

Cæsarean Section for Deformity of the Utero-Vaginal Canal.

BY G. H. BALLERAY, M.D., PATERSON, N. J.

I was called by Dr. Scribner, February 26th. 1901, to see Mrs. G., aged 20, married three years. The patient was nearly at full term of her first pregnancy, and had had slight colicky pains in the abdomen for a day or two. On examination Dr. Scribner found that the vagina was only about an inch and a half in depth and terminated in a sort of cul-du-sac. There was no cervix, and no os uteri could be found. In the upper part of the vagina a slight depression or dimple could be

felt. It was impossible to recognize the presentation through the very thick partition which intervened between the upper part of the shallow vagina and the lower segment of the uterus. The patient seemed a well-developed woman, and there was no evidence of bony deformity of the pelvis. Fœtal movements were felt by the mother, and the fœtal heart sounds were audible. Dr. Scribner persuaded the patient, who was very much excited and very obstinate in her determination not to go to a hospital, to enter my service in the maternity department of St. Joseph's Hospital. As there was no urgency about the case, I did not examine the patient again the day after her admission to the hospital, intending to do so the following day. The following morning, however, while I was engaged in the operating room, the patient, who was walking about and had greeted me very cheerfully in the corridor, left the hospital without permission and returned home.

The idiosyncracies of patients are at times an interesting study, but the idiosyncracies of this patient failed to interest me on this occasion. However, the fates had decreed that she should again fall into my hands. After her return home she summoned my friend, Dr. F. H. Todd, who, fully appreciating the difficulties of the case, sent her to a private room in the Paterson General Hospital, and gave directions to the nurse to have her prepared for operation the following morning. The doctor there communicated with me, and we fixed upon the hour for operation. The patient had had pains at intervals during the previous twenty-four hours, and the head of the child could be felt at the brim of the pelvis. There was a slight bloody mucous discharge from the vagina, and on examination with the speculum it could be seen issuing from the minute opening in the upper part of the vagina. Otherwise there was no change from the condition which I found when I first examined her. March 4th, 1901, with the assistance of Dr. Todd and Dr. Alexander, I proceeded to operate. An incision was made, extending from three inches above to four inches below the umbilicus. As soon as the abdomen was opened the uterus was eventrated and incised in the usual way. As the placenta was attached to the anterior uterine wall, constituting placenta præria Cæsareana. It became necessary to detach it at the upper angle of the incision sufficiently to permit the introduction of the hand into the uterus. The child was seized by one knee and rapidly extracted; and under the skillful treatment of my colleagues, Drs. Parke and Magennis, was

promptly resuscitated. The placenta and membranes were then carefully removed. In order to secure drainage of the uterine cavity a pair of strong forceps were forced through the septum at the point of the dimple in the vaginal wall above referred to, into the uterine cavity, and the septum torn to the extent of about an inch. A strip of iodoform gauze was then drawn from the uterus into the vagina. The uterine wound was closed by a single layer of deep silk sutures, and the abdominal wall with through and through stitches of silk worm gut. The duration of the operation was forty-one minutes. The early steps of the operation were quickly and satisfactorily performed, but some delay occurred in effecting an opening for drainage through the very thick septum. At the time I attributed the delay to my own awkwardness, but it may have been to some extent due to the inherent difficulties of the case. At the conclusion of the operation the patient was in a condition of extreme shock—in fact, she was pulseless; but she rallied well under active stimulation, and made a good recovery. The opening made for drainage showed a marked tendency to contract, and had to be kept dilated by the introduction of the index finger every day for a time, then every second day. In spite of this treatment, however, the canal could not be kept straight It seemed tortuous, and it was always difficult to pass the finger into the uterus after the escape of the gauze drain, which was affected accidentally by the nurse. The child was a male, and is now healthy and strong. Dr. Todd informs me that the mother has all the symptoms of early pregnancy, and that he thinks she is again *enceinte*.

In taking a retrospective view of this case, I am convinced that Cæsarean section was not only justifiable but imperative. To have attempted delivery by vaginal section would have been to court disaster. In a case of atresia of the upper part of the vagina—the lower portion being of normal calibre—it would be good practice to wait until the advancing head had put the septum on the stretch. The septum should then be incised as freely as necessary and the head allowed to descend. If delivery cannot be accomplished by the natural efforts, the forceps may be applied. I have had two successful cases of this sort.

In regard to the technique of Cæsarean section, there are a few practical hints which I desire to refer to: 1st. Don't use the rubber constrictor to control hemorrhage during the operation—trust to the hands of a competent assistant. 2d. Don't use any other than silk

sutures for the uterine wound, and use the interrupted suture. 3d. Be sure to have everything in readiness for the resuscitation of the child, and don't entrust its management to any but a competent assistant. In one of my cases the child was lost for want of proper treatment. It made an effort to breathe after it was extracted, and would, I believe, have been easily resuscitated under efficient management.

Report of a Case of Tumor of the Neck.

BY J. C. McCOY, M.D., PATERSON, N. J.

In April, 1901, Chas. G. came under my service in the hospital for a large tumor of the neck.

Family History.—A brother of the patient had a swelling about the size of an apple in the region of the thyroid gland. The tumor, the patient states, disappeared under medical treatment. This brother is now 42 years of age, well and strong, and no enlargement of the thyroid can be at present noticed.

A younger brother had a tumor in the same region, which was present from his sixteenth to his twentieth year, which then disappeared without treatment.

The patient attaches no importance to such enlargements, since, he says, they are not uncommon among the people in that part of Switzerland from which he comes, and while they are rather common among the older people, they are rarely seen in the young. He states that, outside of his two brothers and himself, his parents cannot recall any other member of the family having been similarly affected.

Previous History.—Patient has never been sick.

Present History.—Swiss, age 38, by occupation a weaver, has been in this country twelve years, and has had no morbid personal history outside of the present trouble.

Seven years ago a small swelling appeared in front of the neck to the right side of the median line at about the level of the thyroid gland.

At the end of two years, *i. e.*, five years ago, it was about the size of half a lemon, was more flat then round and was soft. About this time the mass began to harden and another enlargement showed

itself, just to the left of the first growth. This latter mass was hard from the beginning. During the next three years these two tumors grew steadily larger and coalesced, forming one distinct mass.

Two years ago the patient first noticed small nodules to the right of the growth and along the margin of the sterno-mastoid muscle. These have gradually enlarged until they have reached their present size.

During the three months previous to the patient's admission to the hospital the tumors had increased in size very rapidly. Coincident with the enlargement he suffered rather marked dyspnœa at times, and, as he states, "he was conscious of his heart beating very fast."

Previous to three months ago he was attending to his work and suffered no inconvenience from the tumors, but during the past eight weeks has lost thirty pounds in flesh.

Physical Examination.—Lungs negative, heart rapid (120–140) but regular, poorly nourished, rather anæmic, ocular vessels were engorged, eyes prominent, particularly on the right side, voice weak.

There is a tumor extending from the lower border of the ear backward over the edge of the Trapezius muscle, downward to the Acromio-clavicular articulation, overhangs the right clavicle throughout its entire length, and extends to the left sterno-clavicular articulation, thence along the anterior border of the left Sterno-mastoid, to within an inch of the Inferior Maxilla.

The tumor is lobulated, surface smooth, sulci between several of the lobules rather deep, skin freely movable; is adherent to the deeper tissues and moves during the act of swallowing.

The growth of the thyroid is hardest and most adherent to deeper structures.

The veins over the lower part of the tumor are distended to several times their normal size.

Operation (March 20th).—Incision from tip of mastoid to right Acromio-clavicular articulation, then along the clavicle to the Sterno-clavicular articulation. Free bleeding from superficial veins. The triangular flap thus formed was rapidly dissected free from the growth to the median line, and, owing to the depth—the growth descended behind the clavicle—it was deemed best to attack it from above.

Four of the growths were peeled out from their capsules, to which they were intimately adherent, thus giving room to attack the thyroid growth, which was adherent to larynx and attached to the sterno-

mastoid muscle so intimately that it was found necessary to excise about two-thirds of the belly of the muscle. The main growth was then raised from without in, when it was found that the capsule was adherent to the common sheath of the large vessels. This tumor was so adherent to capsule that it was impossible to peel it out, so that it was necessary to dissect away the sheath of the vessels, thus leaving exposed the carotid artery, jugular vein and pneumogastric nerve throughout their entire length.

The inner portion of growth was very adherent to the larynx, from which it was dissected free. There were two smaller lobules along the upper portion of the larynx, and two others deeply situated behind the angle of the jaw. These were removed, and the capsules belonging to the first growth, which had been removed, were carefully dissected away.

The hemorrhage throughout the entire operation was most troublesome, owing to the dilated condition of the vessels. It was particularly profuse above the sternal notch, where the growth was deeply situated.

The wound was closed with interrupted sutures of silk. There were eleven tumors, their total weight being twenty-eight ounces, the largest growth, in connection with the larynx, weighing eighteen ounces.

The patient made a good recovery, leaving the hospital in about three weeks. The pulse remained rapid for several days, as did also the respirations. In the course of a week these were normal, as was also the voice.

The pathological report, as made by Dr. Cullen, of Johns Hopkins, is as follows :

"The specimens consist of a nodule removed from the neck, and presumably originating in the thyroid. It consists of groups of glands lined by one layer of low cylindrical or cuboidal epithelium. The individual epithelial cells have oval or round vesicular nuclei. These nuclei are remarkably uniform in size. Occasionally, however, one is slightly enlarged and fairly deeply staining. Nuclear figures are scarce. Some of the gland cavities are empty, others contain a granular material or hyaline droplets. The epithelial cells have so proliferated that in many places the glands are distorted. At other points, where the proliferation is more abundant, all traces of glandular arrangement has disappeared and we have solid nests. The stroma

of the tumor is moderate in amount and consists of spindle-shaped cells. The blood supply is scanty. Surrounding the growth is a fibrous capsule, poor in cell elements. It shows no involvement by epithelium.

"The remarkable gland proliferation is, of course, strongly suggestive of adeno-carcinoma. In opposition to this we have a comparative uniformity in size of the epithelial nuclei and a lack of any tendency for the growth to penetrate the capsule. In this particular case, we think it advisable to refrain from giving an absolute diagnosis. We must rely entirely upon the clinical phenomena for a prognosis."

The origin of the growth, I think, was undoubtedly in the thyroid gland; and while the pathological report leaves us somewhat in doubt as to the exact character of the growth, macroscopically, it certainly had many of the characteristics of a fibroma. Such a diagnosis, too, is borne out by the clinical history of the case, inasmuch as there was no involvement of the surrounding glandular structures, and since the patient is now in perfect health, weighing as much as he did six months prior to the operation.

In reference to the severe hemorrhage which almost invariably accompanies the removal of large tumors from this region, I believe the course which was pursued in a subsequent operation, namely, temporary ligation of the carotid artery, not only greatly facilitates the operation, but at the same time diminishes the shock by reducing the loss of blood to a minimum. This can readily be done by passing a heavy silk ligature about the vessel, below the seat of operation, and having it held firmly by an assistant.

DISCUSSION.

DR. W. B. JOHNSON, of Paterson: It would seem possible that in this case the condition might have been Graves' or Basedow's disease. The fact that the gentleman was a Swiss and also that two members of his family had suffered from tumors of the neck, one of which had disappeared spontaneously, and the other under medical treatment, would seem to indicate the possibility of this tumor being of the nature of a goitre. However, I must say that appearance of the tumor itself externally on

removal did not seem to indicate that. Although the patient's pulse was increased to 120 during the period of greatest enlargement of the tumor, it resumed its natural rate after operation. The patient was ill and looked like one suffering from goitre, but we all know that thyroid enlargement is only a symptom of goitre, and that the heart and other organs are also affected. The mere removal of this gland if it were a goitre should not be sufficient to cause the increase in bodily weight, and the relief of all the symptoms. Whether the tumor was a goitre or malignant growth, or a fibroma, I am sure the condition of the patient warranted the immediate operative interference, and the proof is to be found in the successul result of the operation.

SUPPURATIVE CHOROIDITIS.

BY TALBOT R. CHAMBERS, M. D., JERSEY CITY, N. J.

The choroid is essentially a sheet of vascular connective tissue. It is applied to the inner surface of the sclera, but there is intervening the supra-choroidal lymph-space, across which are numerous trabeculæ

Suppurative choroiditis may be caused by infection from trauma or from a sloughing ulcer of the cornea. It may occur in the course of a septic infection, as in pyæmia of the puerperal state. It may occur in cerebro-spinal meningitis and typhus.

On its occurrence, it may be a fresh focus for spreading infection to the brain and meninges. A superficial study of the anatomy of the parts convinces one of this fact.

Randolph, in DeSchweinitz and Randall's book, states: "The lids are red and swollen and the orbital tissue is often so infiltrated as to interfere with the movements of the eyeball. The conjunctiva is intensely conjested. The cornea becomes clouded. Hypopyon and anterior synechia are usually present. The intra-ocular tension is usually elevated in the earlier stages, pupils dilated and anterior chamber shallow. Intense throbbing pain is felt in the orbit and brow, and sight is lost. Chills and fever are usually present."

Randolph then makes a differential diagnosis between suppurative choroiditis and glioma. In the former disease the tension is always elevated in the early stage. A necessary deduction from this is, that there is pain in its inception.

I have a case to report which follows out the exact reverse of the classical history of such cases. While it may not be unique, it is contrary to the rule and demands reporting.

Mrs. Z. æt. 34, four years ago, twins at eight months, several miscarriages since, three weeks ago miscarried at her fourth month. The secundines were not properly removed. Septic fever followed, and I was called to see the case on March 25th, because the patient complained of loss of vision in her left eye and had head symptoms. She had had over a dozen abscesses opened in various parts of her body and extremities, and was confined to bed a very sick woman. The day before I was called there had been some swelling about the left eye, but it had immediately subsided. At no time had she complained of the slightest pain in eye or head.

Examination revealed a normal looking eye except for the color of the pupil, which was yellowish, and the iris had lost its markings. There was no conjunctival or ciliary injections nor abnormal appearance except of pupil and iris. Tension normal! The patient had only accidentally discovered her blindness in this eye and demanded an explanation. My diagnosis was suppurative choroiditis calling for immediate enucleation, which was done on the following day. The eye was found full of pus, which Dr. G. E. McLoughlin, after examination, pronounced streptococcus albus. This is the same germ as was found in the abscesses of the body.

During the week preceding the enucleation the patient had gradually passed into a peculiar condition of mind. She would have lucid intervals, but failed to recognize those about her, and had rambling and irrational appreciation of conversation or things going on about her. This disappeared in two days after the enucleation. Notwithstanding several more abscesses were opened in the month succeeding, she made a slow and uneventful recovery.

The moral of the case is, that this eye should have been removed at least one week earlier than it was done. Then, the patient would not have been exposed to the danger of cerebral complications which presented, but happily subsided.

It seems to me that the general practitioner is not called upon to

diagnose suppurative choroiditis in its incipiency, but in the course of a serious disease, if the patient presents head symptoms, and especially if there be impaired vision or an unusual appearance of the pupil, he should call into consultation some one acquainted with the eye and its diseases.

DISCUSSION.

DR. N. L. WILSON, of Elizabeth: It seems to me that this is a very important subject for the general practitioner. Only six weeks ago I saw a case which was being treated for typhoid fever. A man, forty years of age, had contracted mumps from his children and the disease had gone on for several weeks, and finally his eyes had become involved. When I saw him there was a suppurative choroiditis. Subsequently the joints became involved, and the man died. I wish to bring to your attention the importance of early recognition of these conditions of the eye of infectious origin.

SUGGESTIONS REGARDING STATE AID FOR HOSPITALS.

BY WALTER B. JOHNSON, M.D., PATERSON, N. J.

In the State of Pennsylvania, in the year 1869, an act of the Legislature was passed to create a Board of Public Charities, the duties of which should be an inquiry into the conditions and needs of institutions applying for state aid. A General Agent and Secretary of the Board of Public Charities was appointed. He was the salaried executive officer of the board and ex-officio a member.

Cadwalader Biddle is the present Secretary of the board, and I am indebted to him for copies of the act under which the board is appointed and the annual report of the board for the year 1900. He writes as follows:

"Dr. WALTER B. JOHNSON.

"*Dear Sir:* On my return to my office this morning from Harrisburg I found on my table your letter of the 3d inst. The Constitution of the State of Pennsylvania restricts the Legislature in making

appropriations to charities, public or private, only by restriction requiring that no appropriation shall be made to sectarian institutions. No decision has ever been made as to what is necessary to constitute a sectarian institution. The Legislature of Pennsylvania has extended aid liberally to hospitals and homes as well as educational institutions. All charitable institutions are required to notify the State Board of Charities on or before the 1st of November preceding the meeting of the Legislature of their intention to apply for aid, and the board reports to the Legislature on the merits of the application.

"I send you herewith a copy of the law establishing the Board of Charities and a report giving the action of the board on the applications made for recommendation last November.

"Very truly yours,

"CADWALADER BIDDLE."

APPLICATIONS FOR STATE AID

MUST COMPLY WITH THE LAW.

The following extracts from the Act to Create a Board of Public Charities indicate the method of procedure:

"And all such institutions now receiving, or that may hereafter desire to receive state aid, shall annually give notice to the said General Agent, on or before the first day of November, in each year, of the amount of any application for state aid they may propose to make, and of the several purposes to which said aid, if granted, is to be applied.

"Whenever any such institutions shall thus give notice of asking for state aid, the General Agent shall inquire carefully into the grounds for such request, the purpose or purposes for which the aid is asked, the amount which shall be required, and into any matters connected therewith; and in the annual report, the result of such inquiries shall be given, together with the opinions and conclusions of the board thereon."

THE REPORT ON APPLICATIONS FOR STATE AID

MADE BY THE BOARD IN THE YEAR 1900 IS, IN PART, AS FOLLOWS:

"*To the Honorable the Senate and House of Representatives of the General Assembly of Pennsylvania:*

"GENTLEMEN: The Board of Public Charities respectfully submits the following report of the action taken by them upon the applications for State aid, as required by the act of Assembly creating the board.

"We have, as heretofore, divided the applications into three classes, viz.:

"1. Institutions owned and controlled by the state, and Dixmont Hospital.

"2. Institutions for dependent and delinquent classes, recognized as wards of the state, but owned and conducted by private corporations.

"Private charities of all other kinds."

Then follows in detail the requests for state aid of the institutions under each class. It is our intention to deal only with charitable institutions (hospitals) organized by individuals or associations.

The following extract from the report in relation to charitable institutions organized by individuals or associations is accompanied by an extract of the application of one of the hospitals of a size similar to many institutions of a like character in the State of New Jersey:

"These form a numerous class. They occupy a large field, and render much valuable service. The time and means of those who sustain these institutions are taxed to the utmost, and the state is relieved of the care of many who would otherwise have to be provided for.

"To what extent it may be practical to grant aid for their relief must, of necessity, be left to the discretion and judgment of the Legislature. Too much praise cannot be accorded to those who sustain them by their personal service and pecuniary contribution.

"As this board has no report made to it whereby it can form any idea of the amount of aid which may be given to charitable institutions, it must be understood that these recommendations are based on the supposition that the revenue of the state will be sufficient to warrant them."

ALLEGHENY GENERAL HOSPITAL, ALLEGHENY, PA.

APPLICATION FOR 1901–1902.

For 1901:		
For maintenance	$30,000 00	
For new buildings	30,000 00	
		$60,000 00
For 1902:		
For maintenance	$30,000 00	
For new buildings	30,000 00	
		$60,000 00
Total		$120,000 00

Sources of income for the past fiscal year, viz.:

Cash on hand	$928 33
Invested funds	2,556 56
State appropriations	14,796 48
Donations	3,281 07
Patients and friends for treatment	17,308 04
From all other sources	24,512 50
Total income	$63,382 98

Expenses for the same period:

Salaries and wages	15,219 89
Medicines	4,319 66
Maintenance of patients	18,003 75
Ordinary expenses	10,242 90
Investments	750 00
Bills payable	24,993 67
Total expenditures	$73,529 87
Deficit	10,146 89
	$63,382 98

Total number of patients supported during the year	1,372
Average daily number supported	80
Average weekly cost for patients	$10 99

This application, or so much thereof as may be necessary, approved, as follows:

For 1901:

For maintenance	$22,500 00	
For buildings	30,000 00	
		$52,500 00

For 1902:

For maintenance	$22,500 00	
For buildings	30,000 00	
		52,500 00
Total		$105,000 00

In fourteen years the Allegheny General Hospital has record state aid as follows:

Years.	Maintenance.	Total.
1887	$7,500 00	$7,500 00
1888	5,000 00	5,000 00
1889	8,000 00	8,000 00
1890	8,000 00	8,000 00
1891	15,000 00	15,000 00
1892	15,000 00	15,000 00
1893	15,000 00	15,000 00
1894	15,000 00	15,000 00
1895	15,000 00	15,000 00
1896	15,000 00	15,000 00
1897	15,000 00	15,000 00
1898	15,000 00	15.000 00
1899	17,500 00	17,500 00
1900	17,500 00	17,500 00
Total	$184,500 00	$184,500 00

This hospital was selected at random as being of a size similar in capacity and work to many of the hospitals in the State of New Jersey. It has not been more liberally dealt with than many of the other hospitals.

In the year 1900 the State of Pennsylvania assisted eighty hospitals conducted as charitable institutions organized by individuals or associations. By legislative enactment, under the recommendation of the State Board of Charities, they appropriated $538,125.00 to these charities alone. It is known that the hospitals of this state render much valuable service to the poor and needy suffering from misfortune and disease, and thereby relieve the state of the care of many people who would in all probability become a charge upon it.

It is suggested that steps be taken to induce the Legislature of this state to follow the noble example of the State of Pennsylvania and enact laws which will permit appropriation from the public funds to assist hospitals in extending and continuing their good work for suffering humanity.

DISCUSSION.

DR. CHAVANNE, of Salem: I was impressed with the paper, and noted what seemed to me a serious error, namely: that it has been placed in a wrong position on

the programme. Only a few decidedly interested in the results of this meeting of the Society are here, and hence many have not heard the paper, and cannot appreciate the full importance of it. Because of this there is far from a mutual agreement among the profession. You will hear it said by some that the hospitals do not help the profession financially—indeed, that they take part of the income from the physician. This is really not the fact. We are told that individuals open clinics, hospitals and dispensaries for people who are clad in sealskin sacques and broadcloth suits, whereas, these people should go to the physician. This is a fact, but it should be remembered that an individual who can pay a physician a fee and will not do it is a person whom the physician should not desire for a patient. The hospital gets such practice and relieves the physician of having on his books names of those who owe him money and can pay but will not do so. Again, the hospital assists many who cannot possibly pay a physician's fee. Napoleon says that it is not the men who are wanted in emergencies, but it is the man. I do not reflect upon Dr. Johnson's ability. We want a committee of men made up after the stamp described by Napoleon, those who by their knowledge of men in general and particularly of the politicians and legislators are specially fitted for this work. The expression uttered last night about the lack of influence of the physician may have made an impression, and I wish to say that it is not a fact. The physician because of his apathy loses the influence which he might have if he would. The medical profession of New Jersey will get as much respect as the profession of any other state.

What Reliance Can Be Placed Upon the Image Produced by the X-Ray from a Medico-Legal Standpoint.

BY CHARLES LESTER LEONARD, A.M., M.D., OF PHILADELPHIA, PA.

In presenting this subject for your consideration, some of the more recently expressed views bearing on the subject will be quoted, and its value and accuracy, as a method of diagnosis, will be discussed.

Before, however, taking up that part of the subject, it is well to study the conditions that have rendered any discussion necessary, and the position which the profession has and should assume toward this method of diagnosis.

The Roentgen method of diagnosis is based on a new form of physical energy, the X-ray. This agent possesses peculiar properties that are well known, as are its characteristics and the laws that govern its production. The quality which adapts it to diagnosis, is its power to penetrate the tissues of the body and produce shadows, that differentiate by their densities between the various structures.

The accuracy of this method of diagnosis is due to the mechanical method in which the data secured are registered. The nature of the X-rays is not known, but the laws of physics that govern them are known. They are rectilinear rays that can not be refracted or deflected. They pass in straight lines, and can, therefore, be used as the basis for accurate mathematical calculations and the localization of minute foreign bodies.

The results achieved show their value and utility in detecting and locating bodies and in the diagnosis and treatment of fractures. They have proved themselves accurate when employed with the necessary technic combined with professional knowledge and clinical experience.

The reason that so-called fallacies and errors have been found in this method and make it necessary to discuss its accuracy, is that, as a method of diagnosis, it has been entrusted to persons deficient in that professional education that is essential to the accurate employment of any method of diagnosis.

The pictures made by lay operators have been accepted as valuable clinical data, and read, often incorrectly, by those who did not know how they were made. Can the medical or lay public be blamed for

doubting their accuracy or for believing that they can tell as much by this new method of examination as the members of the profession?

When the medical profession realizes that this is a method of diagnosis, and utilizes it as such; that it can be correctly employed in diagnosis only by a professional man specially trained in its use, they will begin to derive from it the aid which it is capable of affording. Errors will be much less frequent when the diagnoses are made by professional men, expert in this method. The laity will come to realize that they are incompetent to read, appreciate or criticise surgical conditions shown by it.

In a recent paper (*British Medical Journal*, June 8th, 1901), Mr. C. R. Golding-Bird has published some "Remarks on Skiagraphy and Fractures; Especially in the Medico-Legal Relations." This paper may be taken as representing one view of the medical profession on this subject, and will be freely quoted.

In reference to the value and usefulness of this method, he says:

"As an aid to diagnosis, none will now question the value of the X-rays; and whilst their employment is quite unnecessary in by far the larger proportion of cases one is called upon to treat, there is a certain class of doubtful cases where the use of the skiagraph is most advisable.

"All doubtful cases are of two kinds—one in which certain of the existence of a fracture, the surgeon is yet in doubt as to its exact location or its direction, or perhaps its involvement of a joint, and he requires all the information possible for the successful treatment of the case; the other, in which the very existence of a fracture is doubtful. And whilst this doubt may not necessarily modify the line of treatment, yet should the patient afterwards get skiagraphed on his own account, and be able to demonstrate a fracture, he might, if of a litigious temperament, make the position of his surgeon extremely awkward, to say the least of it."

These views seem hardly in accord with the progressive spirit of surgical science. He admits the benefits that can be derived from this method of diagnosis, and that it is able to furnish knowledge that can be secured in no other way, since it is especially useful in doubtful cases, nevertheless he holds that it is unnecessary to employ so valuable a method in by far the larger proportion of cases. It is difficult to understand why benefits to be derived from any method of diagnosis should be deemed unnecessary in a large group of cases. The same doubtful elements that enter some cases may be present in

others that appear perfectly clear. The application of all means of diagnosis at command is not too much for any case. The minute detail afforded by this method, of the character of the fracture, is also invaluable in reducing and maintaining the fragments in position.

His second class of doubtful cases is one upon which this method has brought a strong light. There are better reasons for its employment than the danger of malpractice suits. The treatment of cases suspected of fracture as if a fracture existed is poor surgery today, since this method of diagnosis has made it possible to exclude or detect fractures in nearly all parts of the body. The surgeon is now able to treat the actual injury by appropriate methods, and to save the patient the delay consequent upon the treatment of a suspected fracture that does not exist.

In referring to the difficulties in diagnosis in cases of Potts and hip-joint fracture, he says:

"Both these cases occurred before the general use of the X-rays, but nowadays a surgeon, at any rate in a public institution, could hardly be held blameless were he to neglect their employment as long as a shadow of doubt remained in his mind as to the exact condition of the bone."

"In all cases, therefore, in which the nature of the accident leads to the possibility of any fracture which cannot with certainty be diagnosed, the surgeon should, in *self-defence*, give the patient the chance of skiagraphy to try and settle the point, though no practical outcome may result; for if he does not do this, the patient may have a skiagraph taken on his own initiative, and much trouble result thereby."

Here, again, he admits the advantages and the duty of the surgeon in employing this method of diagnosis, but falls far short in scientific principle in basing its use on *self-defence.*

It is not advisable to employ the Roentgen method in the diagnosis of fractures to the exclusion of all other methods, but all the means at command should be employed. The Roentgen diagnostician is not infallible. Other tissues than those this method recognizes may be injured, and their lesion, unless recognized, may result in greater functional disability than arises from the injury to the bone. This method should not, however, be relegated to a secondary position. Greater detail and more accurate knowledge can be obtained by it than by any other method, with less pain to the patient and less devitalization of the tissues surrounding the lesion, and less depression of the recuperative and reconstructive forces.

This is the true function of this method, and it should not be made to hold a secondary place, such as the author quoted gives it. He says:

"Though over-reliance on mechanical aid to diagnosis, such as the X-ray in fractures, may not be so detrimental to the patient as when an exploratory operation is involved, yet, in my opinion, it is only as a subsidiary aid to diagnosis that skiagraphy should be employed, and even in this secondary capacity its evidence in cases of difficulty and doubt should be *received with caution, and only after due interpretation by some one whose experience warrants his speaking with authority.*"

Undoubtedly, unless the skiagraphs have been *made* by "some one whose experience warrants his speaking with authority," and are interpreted by him with a full knowledge of the surgical pathology involved, it is certainly necessary to receive the diagnosis with great caution. Expert work and expert opinion are alone valuable in cases of doubt in any field of diagnosis. This is true especially of the Roentgen diagnosis.

The value and accuracy of the Roentgen ray image in medico-legal cases is entirely dependent upon the experience and professional skill of the expert who made the skiagraph and translated it. The results of this method of examination are comparable with those of any other mechanical process of observation where human skill is demanded of the expert to accurately employ instruments of precision and to interpret their findings. These elements render the accuracy of this method very great, but it cannot be infallible, as accuracy in making the observation and expert knowledge in reading the diagnosis are essential. It has the advantage, however, of producing mechanically, images that can be compared with the normal, often in the same individual. These images can be duplicated by other experts and their meaning discussed. It is necessarily secondary, or opinion evidence, but founded on tangible data.

The errors and vagaries attributed to this method of diagnosis are the result of a lack of knowledge in interpretation or of skill in employing the rays. In the development of a new method of physical diagnosis the errors should be steps by which knowledge is gained, and should not be held up as stumbling blocks. Their recognition and avoidance in the future marks the path of accurate progress. The mistaking of normal joint and epiphyseal lines for fracture lines, or of epiphyses for fragments, and the holding up of such mistakes as

attesting the inaccuracy of this method, is an index of the calibre of the critic. A knowledge of normal and pathological anatomy as viewed with the X-rays is presupposed in the expert employing the Roentgen method of diagnosis, and inexperience is a poor excuse for making such errors, or for attributing them to an accurate method.

One of the most valuable uses of this method of diagnosis is in determining the success which has followed attempts at reducing and setting fractures and the efficiency of the fixation methods employed. The questions that immediately present themselves are: What degree of accuracy in coaptation should be expected? Does the accuracy of this new method of diagnosis demand of the surgeon more accurate results, and how are they to be judged? It is unreasonable and improper to demand of the surgeon more accurate results unless he is afforded a better opportunity to treat the injury. Unless this opportunity is afforded, a union which re-establishes the functional efficiency of the injured bone, commensurate with the injury that has been received, is all that should be expected. The Roentgen method of diagnosis has frequently shown that, in cases where perfect function has been restored, there may yet be asymmetry in the outline of the bones, and even an entire absence of apposition between the fractured surfaces, and that where symmetry is restored, the functional result may be poor, because of the injury to other tissues.

The only method of treating fractures by which accurate coaptation and fixation can be secured is by open operation. Prof. Van Bergman, of Berlin, said, at the last international Medical Congress, that the treatment of fractures had made two very important progressive steps in the past ten years. One is the operative treatment of certain simple fractures, in order to produce more accurate coaptation of the fragments; and the other, in the field of diagnosis, through the study of their pathological anatomy and the Roentgen method of diagnosis.

This open method of treatment is inexpedient in the vast majority of cases, and its employment in uncomplicated cases is still *sub judice.*

In addition, the Roentgen method does not recognize the injury that has been done to the softer structures. These injuries may be the cause of serious functional disability, and it is, therefore, essential that other methods of diagnosis should be taken into account in estimating the chances of recovery and method of treatment. Symmetry in the outline of the bones is not, therefore, to be demanded, and does not form any criterion of the efficiency of the treatment or the extent of the injury that was received.

The examination of a fracture by this method after it has been set and dressings applied will demonstrate the efficiency of the fixation apparatus and the accuracy of the reduction. It will often show the impossibility of reducing a fracture without operation, or of holding it in position by ordinary methods of fixation or extension. In such cases the meaning of the skiagraph should be explained to the patient or his representative, as well as the necessity for operative intervention and its dangers. He should be given his choice between operation and the chances of a certain amount of disability and loss of function.

Other questions that must be considered in studying the accuracy of this method are: Is it possible to miss seeing a fracture; to see a fracture where none exists; to show a fracture as persisting though long united, or to intentionally or unintentionally produce distorted images?

The ability and experience of the operators are factors that must be taken into consideration in answering all these questions. Undoubtedly fractures can be overlooked by those defective in the technic essential to the exclusion of fractures, or by the inexperienced in reading the skiagraph, though it show the fracture. Where, however, a skiagraph can be obtained that shows the cancellated structure of the bone or the medullary cavity of the long bones in contrast to their walls, the expert will have no difficulty in detecting a fracture, or in excluding all fractures.

There are yet certain portions of the body where such accuracy can not be obtained. The motion of the ribs and the density of the body and skull prevents the recognition of fractures in certain bones, notably the spine and skull. The development of technic and the further progress in instantaneous skiagraphy will probably overcome these difficulties. The method cannot be considered inaccurate because it is incapable of universal application. The accuracy that is obtainable shows what will be accomplished by later developments.

The determination of the persistence of non-union is practically impossible unless a displacement of the fragments is produced that can be detected by the skiagraph when two, taken at different times, are compared. The opacity of the bone is dependent upon the presence of the earthy salts. Callus may be firm and union present long before the deposition of salts makes the callus opaque to the X-ray.

Distortions can be produced in this form of expert testimony as

well as in any other. They can be readily recognized by the expert and proved by subsequent examinations.

Skiagraphs that are to be submitted in evidence should be made with great care. The point at which the tube is perpendicular to the plate should be marked by the shadow of an opaque object, as the lead wafer of the localizing apparatus. The identity of the picture can be established by using lead letters placed beneath the limb so that their shadows are cast upon the plate. It is thus impossible to erase or alter them. Data as to time, length of exposure, distance of tube, etc., can be written in ink upon the plate when dry and signed by the operator. Any attempt to alter the writing or manipulate the plate, except locally, is thus prevented, as the ink would otherwise run and destroy the plate.

Skiagraphs may be introduced as evidence for a number of purposes. To prove or disprove the presence of a fracture alleged to have been the result of accident or negligence. To show the extent of an injury that has been received in reference to the bones or their displacement. To show that proper treatment was or was not employed in suits for malpractice. Here, also, they may be of use in showing the extent of the injury and the insurmountable difficulties in the way of treatment, or that the functional disability resulting was due in a great measure to the nature of the original injury, and was to be expected and could not be obviated by treatment.

Taken immediately after the fracture was set, they can be employed to prove that the fracture was originally reduced, and that the resulting deformity and disability followed and may or may not have been due to the negligence of the patient as shown by other testimony.

Whenever a skiagraph is introduced as evidence, an expert opinion should be had by both sides; and, if necessary, an examination of the patient by this method should be demanded by the opposing side. This is essential, that the true value of the skiagraph in all its bearings upon the case may be brought out. As noted above, it will often show how great the injury has been and how difficult to treat, as well as showing the results of treatment.

The author already frequently quoted has said: "In skiagraphy, things are not what they seem," very often, and, when it is called for medico-legal purposes, only a skilled operator's picture should be used, and its interpretation be left to an expert who is a professional man and, at least, well acquainted with X-ray work. The actual reading

of the picture may be, and is, in many cases, easy; but in charges of malpractice it is not the beauty of bone scar that should determine the rights of the case—though this *is* the thing that is being ingeniously waved before the eyes of juries—but the relationship, if any, that the skiagraphic appearances bear to the clinical results produced by the treatment. It is this last that neither lawyer nor photographer can estimate, but a professional witness only."

Things will, undoubtedly, not be what they seem if, in medico-legal work, any but skilled professional operators and experts in this method of diagnosis are called upon, either to make the examination or translate the diagnosis. He must be more than well acquainted with X-ray work; he must have made the skiagraph and understand the technique of its production to be able to interpret it, and be capable as an expert. His professional education and experience must be sufficient for him to appreciate and translate correctly the pathological conditions that may be shown by the skiagraph. Neither lawyer, photographer, or a professional witness, unless especially trained, is capable of correctly reading the evidence shown in the skiagraph. The professional man who has by careful scientific study and clinical experience mastered the technique of this method of diagnosis, and knows the errors that can be made as well as how to employ it accurately, is the only person competent to give testimony.

Skiagraphs have been admitted as evidence, and will be employed very frequently. When due care is given that they are made by competent professional experts and are fully explained, their importance in expert testimony will be very great, as their mechanical method of production assures a degree of accuracy that can be attained by no other method of diagnosis.

By a decision of the court (Jameson *vs.* Weld, 45 a 299; 93 Me. 345. American Digest 1900, A Oct. to Mch.,) "It is within the discretion of the trial judge to admit in evidence an X-ray photograph; and his determination of whether it is sufficiently verified, appears to be representative of the object portrayed, and may be useful to the jury, is not open to exception."

This clearly defines the position which the courts have assumed in reference to this method of diagnosis. The profession must see to it that this evidence is only given by expert, reliable professional men. Its true value and accuracy will then be evident.

This method of diagnosis should not be feared, but courted for the

scientific aid which it is capable of giving in the treatment of fractures. A more accurate method than any other, it is capable of rendering the greatest service by demonstrating the value and efficiency of the methods of treatment.

DISCUSSION.

DR. CARL BECK, of New York.—I endorse every word that Dr. Leonard has said in his excellent paper, and I only deplore that there are so few men of his kind in this country. It is appalling how little interest is shown, especially in this country, which is wide awake in so many other respects, in this great discovery. It has been even said by great surgeons that the X-rays may be a very useful plaything, but that their real scientific value is still in dispute. This is a great error. Aside from the discovery of asepsis, the Roentgen rays represent the greatest discovery of their kind in the past century. I am reminded of the discovery of electricity by our immortal colleague, Galvani. When he discovered this force by his experiments with the frog it was regarded as a nice plaything, but what has become of this little plaything? Who would, in the face of telegraph, phonograph, telephone, and the trolley, etc., dare say now that electricity is only a little plaything? Compare it with the opthalmoscope, invented by my great teacher, Helmholtz. Some great men used to say that the opthalmoscope was a very nice thing for those who did not have good eyesight, but they, thank God, would not need it yet. And what is it today? Opthalmology is dependent upon this little instrument. The same thing happened with the microscope. Who, nowadays, dares make a diagnosis of kidney disease without the microscope? Is it an instrument merely for the specialist? No, it is indispensable for the general practitioner, for, if he does not have such an instrument, and use it intelligently, he will be left be-

hind. The microscope alone does not make the diagnosis, but without it the diagnosis is not perfect. It is just the same with the Roentgen rays.

Dr. Leonard said it was especially useful in doubtful cases, but let us see how many cases come under this designation. If surgeons of many years' practice are in doubt in every second or third case of fracture as to the peculiar aspects presented, what do you expect of the general practitioner? You must not only know the kind of fracture, but the exact mode of displacement of the fragments, and then it will be easy to know the best mode of effecting reduction. Here is a skiagraph of a Colles' fracture, illustrating this point. It shows that the displacement was sidewards. Therefore the skiagraph tells you plainly towards which direction you have to push the displaced fragment. This means, in other words, that in the Roentgen ray you have an exact guide to treatment.

It seems to me, sometimes, that some surgeons are jealous of the Roentgen rays; they are afraid that the X-rays will disclose their errors, and hence they regard the rays as a enemy instead of availing themselves of them early, thus making them a valuable ally. The latter course is a great deal better than treating the patient in the dark and allowing the dissatisfied patient later on to have an X-ray picture taken on his own account.

Here is a skiagraph showing an enormous amount of callus after a fracture of the carpal end of the radius. The parents of the child accused the surgeon of not having treated the child well. This picture convinced them that the surgeon was not at all at fault, and that the limited motion was entirely due to an abnormal amount of callus thrown out.

Let me further show you a case illustrating the sad

consequences of indifference. A laborer who had been injured by a machine suffered a fracture of the middle of the humerus and at the lower third of the ulna. He was treated by a good physician, but no X-ray picture was taken at the time. The treatment of the humerus was excellent, the fragments having been held in exact opposition, as is shown yet by the very slight evidence of the line of fracture. The ulnar fracture had not been well reduced, yet I do not think that the deformity of that bone interfered seriously with the function of the arm. But in the elbow joint was a very important lesion which had not been detected by the physician, although it was under his care for two years. The man's arm eventually became paralyzed, and the doctor thought there might be some callus proliferation in the humerus, and, therefore, he decided to cut down upon it and free the nerve. He did this, but the condition remained unchanged. If at that time, one year and a half after the injury, he had resorted to the skiagraphic examination he would never have cut down upon the nerve, because the picture would have shown no displacement. This fact would have excluded the possibility of compression of the nerve. If there were compression of the nerve he would have known that it must be somewhere else. This picture which I show you indicates to the educated eye a dislocation of the radius. On a superficial examination it might be overlooked. This also emphasizes the importance of taking two different pictures, for, in in the second one which I have here, it is made absolutely evident to the unskilled eye. After two years it was the patient who suggested to the physician the taking of an X-ray picture. I am informed that he replied that this was interesting and could be done. The surgeon sent the patient to an X-ray photographer, and wrote him that

the humerus should be skiagraphed. Apparently he did not attach any importance to the injury to the elbow. But the patient did not like the idea of consulting a mechanic and preferred the opinion of a surgeon. I concealed the true state of affairs, and did not let him see the skiagraphs, simply advising another operation to relieve the nerve further downwards. If such a picture had been taken two years before, the physician would have seen that the humerus was in perfect position, that the ulna showed displacement which would have easily been averted then by slight inward pressure. He would also have discovered the radial dislocation and could have easily reduced it at that time. The patient is still paralyzed and it is very questionable if he will recover. We are all liable to error, but we should endeavor to correct our errors as soon as possible, and not take two years in which to do it, and should not be induced to correct them by our patients. This is an every-day example and the single individual is not to be blamed for it, because the overwhelming majority still follow their routine.

Here is a skiagraph from a case sent to me by a conscientious friend. There was a question as to whether there was arthritis deformans or a fracture. The picture seems to show both. Eleven years ago the man fell, and in my opinion, fractured the coronoid process of the ulna, as shown by the displacement of the fragment seen in the picture. The picture also shows the proliferation of the bone caused by the arthritic process, in a most striking manner.

Here is a picture showing a fracture of the elbow-joint. It indicates that the fracture was of such a serious nature that a good result could not have been expected under any circumstances. Splinters of bone are being scattered

and shown imbedded in the soft tissues. If the picture had been taken at the outset the surgeon would have been placed in a position to say positively that it was utterly impossible to get a good result. Thus he would have had a document to prove the serious nature of the injury. Only a fool would, on the strength of the picture, have expected him to restore the lower end of the humerus, which was nearly completely shattered, to integrity.

There are no errors in X-rays photography. There are errors of our own, or false interpretations, but the X-rays do not lie. We have learned to eliminate a great many such misinterpretations today because we know about the cartilaginous epiphyses, for instance, which were formerly confounded sometimes with fractures. In my opinion it is always necessary in any case of fracture to make two exposures else you may not recognize a fracture which should be easily detected. Here is a skiagraph of a boy of four years who fell. A diagnosis of fracture was made, although no crepitus was elicited. This second picture shows plainly to anyone the presence of the fracture, though the first one does not show it. How is this to be explained? An expert looking only at the first picture might have sworn that there was no fracture. The fact is that a different projection plane was taken. I first photographed the leg in a perpendicular direction and the two fragments overlapped without displacement. For this reason the line of fracture was not demonstrated. However, on turning the limb a little to one side the line of fracture became obvious. This was done three years ago. From then our tubes are so much stronger that even in the case of overlapping the fracture line is shown.

Here is a skiagraph from a case of Colles' fracture which

occurred in a boy of fourteen years. The first photograph showed nothing but a normally ossified epiphysis. If I had had no experience I would have said that although the symptoms indicated fracture I could find none in the X-ray picture and would have been diagnosticated contusion. A second picture was, however, taken, and it showed an osteo-epiphyseal separation.

Another example of my mistakes may be teaching to you. A man fractured the middle of the radius. There was considerable displacement, the lower fragment overlapping the ulna. I bent the arm over my knee to evert the inverted bone fragments, and on passing my finger along them there seemed to be no interruption of the outline of the bone. So I applied a plaster of Paris dressing, but not being entirely satisfied, I made an X-ray picture through the plaster dressing and found that the deformity, although partly reduced, had not secured a good position of the fragments. I had to cut off the plaster and make a complete reduction. The final result was blameless. The next picture is one of the fracture of the calcaneum, but so vaguely shown that I would not swear in court to its existence until I had been placed in possession of this second picture, which, being taken from the opposite side, shows the fracture most markedly.

What the Roentgen rays can do in other lesions than those caused by fracture, may be evident from the following case: Some time ago I treated a young man for septic phlegmon of the forearm. His little finger had been crushed in a door and an amputation had been performed, but it did not check the process. Extensive incisions were made, but his condition was so bad that amputation of the forearm was considered. Some consultants urged amputation, but I refused, and the man recovered, with the exception of a small fistula on the

dorsum of the forearm. The probe failed to detect rough bone, but a skiagraph revealed a spicule of bone proliferating from the radius. It was removed under the direct guidance of the skiagraph, and I now show it to you. It was attached by a thick fibrous tissue on the upper surface, and this explains why the probe did not detect rough bone. The operation for its removal was insignificant as compared with what it would have been in former years without the guidance of the X-rays, the length and direction of the incision being indicated by them. Similarly, in cases of osteomyelitis with the help of the X-rays you can dissect out only just enough to expose and treat the diseased area while formerly you had to expose the whole bone in order to ascertain whether you had reached all foci.

I am absolutely convinced that every one of you will have a Roentgen ray apparatus sooner or later. The sooner you have it, the better it will be. You must not have the apparatus for the purpose of protecting yourselves against suits for malpractice, but you must possess it for the same reason that you possess a microscope, viz: as a valuable aid in your scientific work. It is a necessity and you must come to it in due time.

Let me show you a picture as proof of what can be done with the X-ray in revealing the condition of the skull. Here you see a clear reproduction of the base of the skull in a child, the sella turvita even being well marked As a rule, however, it is impossible yet to make an indisputable diagnosis of fracture of the base of the skull by means of the X-ray. I should like to know what Dr. Godfrey understands by an X-ray expert. My understanding is one who is a thoroughly equipped and experienced surgeon, and who is also master in X-ray work. Such a man would not be an X-ray expert of the kind mentioned by Dr.

Godfrey. He would be able to distribute light and shade evenly. The X-rays do not show ALL. While the X-ray does, for instance, not show any evidence of trophoneurotic disturbances, these may exist, and the person afflicted with them may be entitled to a certain amount of indemnity. I have recently written an article (*Münich Medical Weekly*, Nov. 17, 1901) emphasizing the injustice of blaming the general practitioner for a poor result in fracture cases. The fact is, it is almost wonderful that such good results have been obtained without the help of the X-rays. I might show you a series of indefinite pictures which cannot be used as proper evidence of the existence of a fracture. A few days ago a brother physician who is supposed to have considerable experience in X-ray work, examined one of my patients during my absence from the city, in whom a fracture of the radius was suspected. Relying upon the fluoroscopic screen, he claimed to have seen the fracture line and advised the application of a plaster of Paris dressing, which was applied. A few days later I made an X-ray picture and found no evidence of fracture, and on removing the dressing it was obvious that a fracture did not exist. I dare say that a physician who is not more scrupulous in giving his opinion is not an ideal expert. The true expert knows exactly how far his knowledge goes and where imagination begins. A good plate in the hands of an experienced surgeon, who knows especially all anatomical details and all possible delusions, can be regarded as evidence in court.

DR. W. D. GRAVES, of East Orange.—I wish to thank Dr. Beck most heartily, and would like Dr. Leonard to say something about calculi in the ureter.

DR. E. L. B. GODFREY, of Camden.—I wish to ask about detecting a slight depression on the inner surface of the skull by means of the X-ray.

DR. LEONARD.—I have not had any experience in this line except in work on the cadaver. I was able to show with the X-rays fractures which had been produced experimentally in the inner table of the skull. It was only possible, however, by carefully selecting the line of projection.

DR. GODFREY.—It has been my lot to have a number of cases in court during the past year. In a case of supposed fracture of the internal table the expert was able to detect a slight depression without any evidence whatever of external injury to the skull. It created a profound impression in court, but an expert employed by the defendant stated that it was utterly impossible to detect an injury of this nature by the X-ray. I should like to ask what reliance can be placed on the X-ray in detecting a fracture of a body of a vertebra.

DR. LEONARD.—I stated in my paper that it was impossible at present to be absolutely certain in such work with the X-rays in all cases, though it was possible to detect some fractures of this kind.

DR. GODFREY.—Granting that there is no fracture of the metatarsal bones of the foot, can you determine by the X-ray whether or not there is a periostitis?

DR. LEONARD.—If opaque callus is deposited there, it can be revealed by the X-ray, but, as I said with reference to the detection of ununited fractures, we do not know at what time the deposit of lime salt takes place in the callus.

DR. GODFREY.—There is no doubt that one can detect a fracture and a deformity, but the tendency is for the X-ray expert to go into court and show a deformity which is really no injury whatever. I cannot recall a case in my practice where I ever had a stiff elbow joint, nor one in which there has been a complete loss of rotation and

supination in a fracture of the forearm, and from the fact that deformity exists, one cannot argue that it is a detriment to the patient in a majority of instances; yet the tendency is for the X-ray expert to excite the prejudice of the court against the attending physician. I have had that experience, one expert being pitted against the other. So far as injuries to the skull and the spine and to internal organs are concerned, I have so far been unable to find an expert who could thoroughly convince the court or the physicians testifying there as to the value of the X-ray in this field. I am sorry to say there is a great tendency for the X-ray expert to overestimate, indeed, almost to exaggerate, the results of fracture. The paper has been exceedingly interesting to me, and the photographs presented are exceedingly fine.

DR. EMERY MARVEL, of Atlantic City.—I thoroughly appreciate the great aid afforded to the surgeon by the skiagraph, at the same time, Dr. Beck and Dr. Leonard have admitted that the X-rays may be abused. We are told that by the use of the X-ray certain conditions may be exaggerated or lessened. It seems to me to be an excellent adjunct to the diagnostic armentarium of the surgeon when used judiciously by skilled hands. I would ask, however, if this means of diagnosis may not be maltreated in contested cases. It stands in the same relation of a photographer who is asked to photograph a criminal. If a number of pictures are taken from various points of view its evidence is indisputable, but otherwise not.

DR. LEONARD.—I have considered in my paper the possibilities of errors with the X-rays, knowing that they have been made in court. I know of a case in which a picture was shown with the lantern in a lecture to a school of girls. It happened to be in the vicinity of the patient's residence, and the latter hearing what had been

said brought suit against the physician for damages. There had been a fracture of the tibia and fibula with rupture of the ligaments and displacement of the fragments. The man was fortunate in having escaped with any motion in the foot. It should be remembered that the picture of the osseous deformity should not be the sole basis for assessing damages in a suit. There are other structures which are concerned in the loss of function of a part. The X-ray shows in a measure the extent of the injury to the bone, but nothing at all about the soft structures, and the latter point must be decided as heretofore by the testimony of the surgical experts. The X-ray is a means of assisting these surgeons in determining the extent of the injury. I have a friend who fractured his arms long ago, and although there was a perfect functional result, a skiagraph shows that the fractured surfaces were not even in apposition.

With reference to the use of the X-ray in calculus cases, I would say that I have examined about 170 cases suspected of having calculi. Of that number, 48 cases showed the presence of calculi, and in over 50% of these the calculus has been found in the ureter, thus conclusively demonstrating the accuracy of the method. This is entirely out of proportion, according to the text-books, to the frequency of ureteral calculus. I have had a number of cases showing calculi small enough to pass spontaneously, and hence operation was not advised. The calculus which was passed spontaneously in one case, I hold in my hand. The same conservative delay has been advised in six other cases with equally good results. I have seen operations done for ureteral calculi which I considered to be entirely unwarranted, because the calculi were small enough to pass and the symptoms were not severe. In four other instances within my knowledge

the calculus was passed while the patient was waiting for operation. These culculi often remain for a long time in the ureter without causing any injury to it or to the patient. The Roentgen method of diagnosis permits us to tell which cases must be operated on at once, and sanctions a conservative delay in others, where it would have otherwise been bad surgery.

ADDENDUM

TO

REPORT OF STANDING COMMITTEE.

In Memoriam.

JOHN ADAMS WELLS, M.D.,

Born January 17, 1856.
Died May 21, 1901.

FRANKLIN GAUNTT, M.D.,

Born July 19, 1823.
Died July 7, 1900.

JOS. DAVID OSBORNE, M.D.,

Born September 6, 1833.
Died June 1, 1900.

WILLIAM PIERSON, M.D.,

Born November 20, 1830.
Died June 12, 1900.

THOS. PAGE EDWARDS, M.D.,

Born May 4, 1861.
Died July 4, 1900.

In Memoriam.

HENRY THEODORE HEROLD, M.D.,

Born March 19, 1860.
Died July 25, 1900.

WM. SPENCER WARD, M.D.,

Born July 13, 1821.
Died September 1, 1900.

N. B. BOILEAU, M.D.,

Born June 26, 1833.
Died February 11. 1901.

WILLIAM RICE, M.D.,

Born March 13, 1837.
Died February 13, 1901.

GEORGE L. RUNDLE, M.D.,

Born February 19, 1863.
Died January 21, 1901.

In Memoriam.

CALVIN TERRIBERRY, M.D.,

Born November 22, 1849.
Died June 9, 1901.

ADONIS NELSON, M.D.,

Born June 4, 1856.
Died March 23, 1901.

WILLIAM E RIBBLE, M.D..

Born June 3, 1825.
Died June 8, 1900.

WILLIAM A. M. MACK, M.D.,

Born October 5, 1857.
Died January 14, 1901.

WILLIAM STITES, M.D.,

Born July 10, 1834.
Died March 8, 1901.

OBITUARIES.

JOHN A. WELLS, M.D.

Dr. John A. Wells died at Englewood, N. J., on May 21st, 1901, from an acute attack of pneumonia. He was born in New York City on January 17th, 1856. His father, Ralph Wells, is widely known and highly esteemed, especially in religious circles. He pursued a course at Yale, graduating from that college in his twenty-first year. Taking a full course at the New York College of physicians and Surgeons, he graduated therefrom in 1879. He then entered upon and prosecuted a full course of both medical and surgical service at the New York Presbyterian Hospital. On June 1st, 1862, he married Janet Taylor Wall, eldest daughter of Rev. Dr. T. G. Wall. In September of the same year he settled at Englewood, N. J. Enthusiastic as to his chosen profession, and with thorough equipment therefor, he acquired an early and deserved reputation as a general practitioner. As a natural result, his professional work became large and lucrative. He was deeply interested in the success and management of the Englewood Hospital, rendering most valuable service in various ways in its behalf. Among its records are the notes of scores of his surgical operations skillfully and successfully performed. His membership in the Bergen County Medical Society was ably sustained. His enthusiasm in certain outdoor sports, such as hunting, fishing, golf, etc., was proverbial, and his record in such directions was remarkable. In short, his sanguine temperament and enthusiastic nature, combined with a mental and intellectual alertness of unusual versatility, enabled him to rapidly reach the high ideals to which he conscientiously aspired. Dr. Wells was naturally reticent, but had a reputation for happy companionship with close personal friends. His death in the prime of his years, with the promise of large and increasing usefulness, is very naturally a matter of the deepest concern and regret to all with whom he held relations.

The various societies with which he was affiliated have taken suitable action concerning his death, and this brief tribute to his memory is submitted for the information of the State Medical Society by a neighboring physician who held close professional relations with him.

FRANKLIN GAUNTT, M.D.

BY A. W. TAYLOR, M.D.

Dr. Gauntt was of English descent, his ancestry having emigrated from Ghent, Lancashire, England, to Salem, Mass., in 1650. He was the son of Benjamin Gauntt, who practiced dentistry for several years in Burlington, N. J., and was afterwards interested in the stage lines running between Philadelphia and New York and Burlington and Mount Holly. He was born in Burlington, N. J., on July 19th, 1823, and there he died on July 7th, 1900. He pursued his medical studies under Drs. Cole and Parrish, and received his medical degree from the University of Pennsylvania in 1847. He began and ended his professional life in his native town, upon which he reflected great honor, having himself been respected and honored by state and national professional and political men, parties and associations. His life closed in the line of professional duty. His death was due to blood poisoning, the sad sequel of a surgical operation upon a friend and patient, who survived the doctor but a short time. It would almost seem as if the germs against which, with pen and voice, he had for more than twenty-five years fought most vigorously, in this way revenged themselves upon an implacable foe. For more than fifty years he was an active member of the Burlington County Medical Society, was rarely absent from its meetings, and was always an earnest and instructive participant in its discussions. He believed in common sense in medical matters and expressed himself so. During a discussion of typhoid fever he declared it to be a shame to say that the disease was a dispensation of Providence when a filthy drain was contaminating the well. The germ theory was a strong and all-pervading belief with him when its advocates were still but few. He introduced it at many meetings of the County Society, and when others were disposed to think that his ideas were too strong or even untenable, he was content to bide his time, and once said that in twenty years a school boy who could not draw a sketch of each type of microbe would be considered incapable of further education. He was then merely ahead of the times, which eventually caught up with him, as he lived long enough to see the theory receive a world-wide adoption. As a professional neighbor and brother he was far above any criticism. No medical neighbor ever felt that his reputation or

professional business would in the least possible way suffer at Dr. Gauntt's hands. To young medical men he was always kind and ready to assist them either in the way of consultation in the sick room or at his or their office. His professional etiquette was of the old and honorable kind. In surgery he excelled, and in the present day would have selected it or one of its subdivisions as a specialty. Circumstances early afforded him an opportunity for considerable practice in this branch, and at the outbreak of the civil war he was already known as an able surgeon, and as such received professional position in the government service, both in hospital work in New Jersey and in the United States army. At the hands of his fellow-townsmen he received all the civil and political honors they could bestow. He was a man of strong convictions, and was not afraid to state and defend them, but was, withall, so gentle and kind that he had few enemies, but innumerable friends, both among those who agreed and those who disagreed with him. Professionally, he was an acute observer; quick to see the necessities of a case and to adopt the proper treatment. At various times he held all the different offices of his County Society, was a member of the State Board of Health, the New Jersey Sanitary Association, Association of Military Surgeons of the United States, Order of Military Surgeons of New Jersey, a member of the International Health Association, one of the Censors of the Medico-Chirurgical College of Philadelphia, President of the New Jersey State Medical Society and one of its Fellows. A medical gentleman of the old school, well posted in the new theories and practice of his profession, his like is not often found, especially in the country section. He was a representative of a class which does not appear to be prominent in this day of many hospitals, viz., the rural surgeon.

In the death of Dr. Gauntt his county society met with a serious loss, and among them his venerable figure is sincerely missed and mourned; the medical profession of the state, one who has been an honor to it, one whom it has honored; Burlington City, an important man in its civil and political work, and its rich and poor, one who was ever ready to respond to their call when sickness assailed them. He spent his life among them, ever solicitous for their good, among them he died, and in their midst he rests from his labors, while his works do follow him.

"We ne'er shall see his like again."

JOSEPH DAVIS OSBORNE.

Joseph Davis Osborne was born in Succasunna, Morris County, New Jersey. He received his early education at the school of his father, the Rev. Enos A. Osborne, who had removed to Newark, and was some time Newark City Missionary. From his father's school he went to the Troy Conference Academy, at West Poultney, New York. He was graduated in medicine at the College of Physicians and Surgeons, New York, in 1859, having studied in the office of Abram Coles. He began practice in Newark. At the beginning of the civil war he was mustered into the service of the United States as surgeon of the Fourth New Jersey Volunteers and served throughout the war. He was mentioned in orders for meritorious conduct. After the war he resumed practice in Newark. In 1889 he was President of the Essex District Medical Society, and at the time of his death he was one of the Permanent Delegates from this society to the Medical Society of New Jersey. He was one of the organizers of the Society for the Relief of Widows and Orphans of Medical Men of New Jersey," and was a most active and earnest promoter of its interests and welfare. He was President of the society from its organization until his death. He was one of the founders of the Practioner's Club of Newark, and was at one time its President. For several years he was a member of the Medical Board of the Hospital of St. Barnabas, Newark, as attending physician. He was also a prominent member of Lincoln Post, G. A. R. Dr. Osborne's success in his profession was due to his genial, cheerful manner and his painstaking attention to his duties. During several years of suffering with the disease that proved fatal to him, and for years previous, when under the influence of a malady acquired in his professional work, he was still cheery and uncomplaining, yielding to disease only after strenuous efforts to combat it. In his manly upholding of the dignity and honor of the medical profession, he was a worthy example to his fellows.

WILLIAM PIERSON, M.D.

BY THOMAS W. HARVEY, M.D.

This is the first time in the existence of the Essex District Medical Society since 1819 that there has not been the name of a Dr. Pierson on

its roll of members, and this year will be the first since 1830 that there has not been a Dr. Pierson of Orange serving as an officer of the New Jersey State Medical Society.

Every now and then we find a community whose medical history is dominated by one family—the Welches in Connecticut, the Elmers in South Jersey, and the Wards in Newark—but it is seldom that the record will show a direct descent through four generations of medical men, and particularly medical men who were each of them *facile princeps* in his day and generation. This is the record of the Orange Piersons. In the history of all the public affairs of that community throughout the period covered by the lives of these four men, we find their names connected with every movement that worked for the public good, holding office and guiding the affairs of their fellow-men in politics, in educational and charitable institutions, in professional and business organizations. We find them serving the community as Sheriff, in Congress and State Legistature, as Mayor, School Commissioners, etc., as officers and directors of banks, early promoters of business enterprises, such as gas companies and street railroads, active in medical societies, filling successively the offices of Secretary and President of county and state societies, and on the staffs of the most important hospitals and eleemosynary institutions.

Dr. William Pierson, last of this medical line, died June 12th, 1900, in his seventieth year. He was born in Orange November 20th, 1830, within a stones-throw of his life-time residence, near the corner of Main and Hillyer streets, and on this corner his father, grandfather and great-grandfather had their offices before his.

He received his early education principally at the Newark Academy, and was graduated in medicine in 1852, taking his degree at the Medical Department of the University of the City of New York. He served as house physician at Charity Hospital, and later as house physician at the Brooklyn City Hospital. In 1853 he returned to Orange and commenced practice with his father and the late Dr. Crane.

He joined the Essex District Medical Society in 1853, and was elected its president in 1865, being the 24th in the series, his grandfather having been its third and his father its seventh president. Dr. Pierson's inaugural address in 1865 was a paper on "Obstetrics; a Resume of 1,500 Cases Attended in Thirteen Years." His father, in 1856, read a paper before the State Society on 2,030 births attended in twenty-eight years. The younger man, before his death, could have read an analysis of 6,000 cases.

The Piersons also served this society frequently as Censors and as delegates to the State Society, Dr. Isaac Pierson going as early as 1819. He was elected President of the State Society in 1827. Dr. William Pierson, Sr., was Reporter for Essex in 1822; Corresponding Secretary of the State Society in 1828. He was elected Recording Secretary in 1830, and continued in that office until the Centennial meeting in 1865, when he was elected Third Vice-President. He was elected President in 1868, reading as his inaugural address a paper on "Medical Jurisprudence."

Dr. William Pierson, Jr., succeeded his father as Recording Secretary, holding the office consecutively until 1897, when he was appointed Third Vice-President in place of Dr. J. J. H. Love, deceased. He was elected President at the last meeting of the State Society (1900), only a few days before his death, one of his last acts being the dictation of a telegram acknowledging the announcement of his election.

Dr. William Pierson, Sr., read several papers before the State Society. In 1847 he reported three cases of hydrophobia. His son, also, in 1865, read a paper reporting three cases of hydrophobia.

The senior doctor was chosen to deliver the historical address at the centennial meeting in 1865.

Dr. William Pierson, Jr.'s papers before the State Society included—

(1) Case of Poplitical Aneurism. 1857.

(2) Epilepsy. 1860.

(3) Carcinomatous Tumor of Dura Mater. 1860.

(4) Pyæmia Following Gonorrhœa. 1862.

(5) Carcinoma of Kidney in an Infant. 1863.

(6) Case of Hydrocephalus. 1864.

(7) Lateral Lithotomy. 1865.

(8) Case of Spotted Fever. 1865.

(9) Fibro-Cystic Tumor of Uterus, Mistaken for Ovarian Cyst. 1868.

(10) Ulceration of Appendix Vermiformis with Multiple Abscess of Liver. 1871.

(11) Four cases of Trouble Following Vaccination. 1873.

(12) Sanguineous Cyst of Sacrum. 1877.

(13) The Umbilical Cord. 1898.

Dr. Pierson was connected with many of the hospitals of the state. He was attending surgeon to the Orange Memorial Hospital and St. Michael's Hospital. Of the latter institution he was Medical Director

for many years. He was consulting surgeon to St. Barnabas Hospital, Newark, and to St. Mary's Hospital of Morristown. He was also attending physician to the Orange Orphan Home and to Seton Hall College.

He always took an active interest in medical societies. He was a member of the old Medical Union of Newark, the New Jersey Academy of Medicine, the Orange Mountain Medical Society, the Practitioner's Club of Newark, the Orange Practitioner's Society, and the State Sanitary Society, of which he was a member of the Executive Committee for many years. He was also an active member of the Milk Commission of this county. He held membership in the Academy of Medicine of New York and the American Medical Association. He also attended three of the International Congresses, two in Europe and one in this country.

The doctor conducted a very large practice for many years, devoting much of his attention to surgical subjects. As a sudent he had learned his surgery from Valentine Mott, S. D. Gross and Kearny Rogers, and was at once a bold and skillful operator and a judicious and conscientious surgeon.

Dr. Pierson did not take as active an interest in public affairs as did his medical ancestors, but for many years he served as President of the Board of Education of Orange, and devoted much time and attention to the duties of that office.

During the civil war he was surgeon to the Board of Enrollment and volunteer surgeon on the Governor's staff. He also saw service at the front as surgeon to the Sanitary Commission.

In all these public and professional affairs the doctor was an active agent for good in developing his profession and forwarding the public weal. It was, however, as a family physician that Dr. Pierson wielded the widest influence. He possessed to an unusual degree the confidence of his patients, and they trusted him in all times of stress and trouble, sure of finding in him a safe counsellor and a devoted friend.

To his professional brethren he leaves as a rich heritage his high sense of professional honor and the personal influence which he always exercised in promoting harmony and good-fellowship.

THOMAS PAGE EDWARDS.

Thomas Page Edwards was born in Marcy, New York, May 4th, 1861. He died in Newark July 4th, 1900. Dr. Edwards received his

early education at the Academy at Holland Patent, New York. He then began the study of medicine, and matriculated in the Medical Department of the University of New York, from which he received the degree of Doctor of Medicine in 1885. Soon after graduation he began practice in Newmarket, New Jersey, remaining there for two years. He then removed to Newark, where he practiced his profession until his death. He took considerable interest in politics, and was for one term a member of the lower house of the Legislature of New Jersey. For a time he held the position of District Physician. At the time of his death he held the appointment of Physician to the County Jail. His death, which occurred very suddenly and without apparent warning, was attributed to the effect of the excessive heat of the weather upon a heart already weakened by disease.

HENRY THEODORE HEROLD.

Henry Theodore Herold was born in Newark, March 19, 1860. He died July 25, 1900. He received his early education in the grammar schools of the city where he was born. He then took a course in the New York College of Pharmacy, from which he took a degree. He also took a two years' course in chemistry and metallurgy, his knowledge and skill receiving very appreciative commendation from his teachers. He studied bacteriology in the laboratory of the Health Department of New York City, and acquired an authoritative knowledge of the subject. In 1887 he was graduated in medicine by the Bellevue Hospital Medical College, New York City, and immediately began the practice of his profession in Newark. He soon after received an appointment as one of the house physicians of St. Michael's Hospital, Newark. In a few years he was elevated to the position of Attending Physician, and two years before his death was transferred to the position of Attending Surgeon, which appointment he held at the time of his death. He was a member of the Practitioner's Club and the Medical and Surgical Society of Newark, for a time holding in each society the onerous position of Secretary. He was also a member of the American Medical Association. Dr. Herold was a very earnest, conscientious man; kind, gentle, and withal modest. His keynote was fidelity. He was faithful to his friends and patients; faithful to his profession and true to its best interests and duties, in the

performance of which he was both punctual and exact. His rapid rise in his profession was due solely to merit. His disposition was genial, his manners frank, unassuming and modest, his character above reproach. His untimely taking off was sincerely mourned by very many patients and friends.

WILLIAM SPENCER WARD, M.D.

Dr. William Spencer Ward, son of Dr. Eleazer D. Ward, and Elizabeth W. Dodd, both of Bloomfield, N. J., was born July 13, 1821, in Bloomfield, and died September 1, 1900, at Newark. All of Dr. Ward's early education was acquired in the common schools and the Academy in Bloomfield till he entered Princeton College as a sophomore in 1838. He graduated from Princeton in 1841. That class included many grand names. conspicuous among them that of the Rev. Dr. T. L. Cuyler, who is still living, the venerable preacher and prolific writer.

After graduating from college Dr. Ward taught school for a year in Perth Amboy, and then for a year or more in Montclair, meantime using all his spare time in reading medicine, under the direction of his father in Bloomfield, attending lectures during the winters at the College of Physicians and Surgeons, then located in Crosby street, New York, and received his diploma from that college in the spring of 1849.

On the 21st of August, 1849, Dr. Ward came to Newark and located in Broad street, east side, above Bridge street, then No. 99. In that neighborhood, within two or three blocks, he spent the rest of his life.

His name appears first on the roll of the District Medical Society in 1859.

Dr. Ward entered the service of the Government as assistant surgeon, then called contract surgeons, November 16, 1863. He was honorably discharged June 13, 1865, and says, in one of his letters of that time, "I enjoyed my hospital service," "and was honorably discharged with complimentary mention by the surgeon of the hospital." Of Dr. Wm. S. Ward it is no "fulsome praise" to say that he was from his youth "without guile." He lived "void of offence toward God and towards men." He was a Christian gentleman, a good husband, a good father, a good friend, a good neighbor, a good citizen and a good physician.

Dr. Ward married, in 1850, Miss Elizabeth H. Stitt, of Philadelphia,

and seven children were born to them, of whom but two survive him—Frederick S. and A. S. Ward—both honored citizens and honorable sons of an honorable father.

NATHANIEL BRITTON BOILEAU, M.D.

BY ISAAC S. CRAMER, M.D.

The subject of this sketch, son of Daniel and Jane Boileau, was born in Tinicum Township, Bucks County, Pennsylvania, June 26th, 1833, and died at Jutland, Hunterdon County, New Jersey, February 11th, 1901.

Dr. Boileau came of a good family, honored and respected in its time. His great-uncle, Nathaniel B. Boileau, for whom he was named, was the Secretary of State of Pennsylvania from 1808 to 1817. His grandfather on his mother's side, James Ruckman, was a member of the Legislature and Treasurer of Bucks County. One of his brothers, James R., represented Bucks County, and another, Samuel, Northampton County, in the Legislature.

Dr. Boileau received his preliminary education in the schools of his neighborhood and at Doylestown. For a time he was a student at Franklin Institute, New York. He commenced his professional studies with Dr. Charles C. Jennings, of Easton, Pa., attended lectures at the University of Pennsylvania, and graduated in 1858. The subject of his thesis was "Cholera Infantum."

The same year he located at Everettstown, N. J., where he remained ten years in active practice. Then he moved to the neighboring village of Perryville, now Jutland, where he remained as long as he lived, engaged constantly in the work of his chosen profession.

It 1859 he joined the Hunterdon County District Medical Society, was its presiding officer in 1866, and was appointed chairman of the Section of Obstetrics in 1871, which position he held at the time of his death.

In 1863 he married Nancy S. Blane, daughter of the late Dr. John Blane, who, with three daughters, survives him.

In religious faith, Dr. Boileau was a Presbyterian, and in politics, a Democrat. In his fraternal relations he was a Mason, taking a lively interest in everything that pertained to the welfare of the fraternity. He was also a member of the Hunterdon County Historical Society,

and for many years its efficient Treasurer. Every project that pointed to the advancement of the community in which he lived found in him an earnest advocate.

As a man he was genial and kind-hearted, greatly beloved by his own family and highly esteemed by his neighbors and acquaintances. For more than forty years, by night and by day, in summer's heat and winter's cold, he ministered to the sick and afflicted, and by his untiring devotion, his cheerful disposition, and his skill as a physician, he was instrumental in doing much good and worthy of the plaudit, "Well done, thou good and faithful servant." In his professional relations with his colleagues, he was the soul of honor, never stooping to low artifices to disparage the character and standing of others.

WILLIAM RICE, M.D.

BY GEORGE R. MOORE, M.D.

Dr. William Rice, of Trenton, was born in Salisbury township, Bucks County, Penna., in 1837, and died February 13th, 1901. He received his early education at the Friends' High School, Philadelphia, afterwards attending the University of Pennsylvania Medical School, from which he was graduated in 1860. He practiced medicine in Frenchtown, N. J., for nine years, and served two terms as Mayor. In 1871 he moved to this city, where he built up a large practice. In public affairs he was well known, having served as School Trustee three terms, City Physician two years, and Mayor two terms. He was a member of the Mercer County Medical Society, which he joined in 1878.

GEORGE L. RUNDLE, M.D.

BY PHILANDER A. HARRIS, M.D.

George Lester Rundle, son of Isaac S. Rundle and Teressa R. Shay, was born at Walpack Centre, Sussex County, New Jersey, February 19th, 1863. From the district school of his native village he went to the Newton Collegiate Institute, Newton, N. J. He there prepared for Princeton College, from which he was graduated in 1886. Immediately afterwards he began the study of medicine with Dr. J. M. Miller, of Layton, N. J., at the same time teaching the district school

at Hainesburgh, N. J., for one year. He attended three courses of lectures, and was graduated with the degree of Doctor of Medicine from the University of New York in 1890. Immediately after graduating he entered as interne in St. Mark's Hospital, New York City. After one year's service as "resident" in this hospital, he passed the examination by the New Jersey State Board of Examiners, and at once located in the city of Passaic, where he built up a lucrative practice. He was one of the visiting staff of the Passaic Emergency Hospital, and with the merging of that institution into the Passaic General Hospital in 1897 became visiting surgeon to the latter institution which position he held at the time of his death.

He had served as Commissioner of Education of the City of Passaic.

Dr. Rundle was a man of most sterling qualities, and his habit of dealing justly and fairly with others greatly endeared him to those with whom he associated.

His demise on January 21st of this year was as sudden as it seemed untimely. Whilst crossing the railroad in his carriage, on his return from Delawanna, whither he had gone to visit a very poor patient, he was struck by a train, and so severely injured that death resulted on the following morning, and thus a successful and most promising career was suddenly cut short.

In 1894 Dr. Rundle was married to Miss Helen McDanolds, daughter of ex-Surrogate Henry McDanolds, of Passaic. Mrs. Rundle died in 1896, at the birth of her only child, a son, who still survives.

CALVIN TERRIBERRY, M.D.

Calvin Terriberry, M.D., died on the ninth of June, 1901, at his home on Carroll street, Paterson, N. J. He was born on November 22d, 1849, in New Hampton, Hunterdon County, N. J. In 1866, while a student at Pennington Institute, near Trenton, he suffered from a severe attack of pericarditis. The following year he taught school at Belford, L. I.

He began the study of medicine in the fall of 1868 with his brother, Dr. G. W. Terriberry, and subsequently became an office pupil of James R. Wood, remaining with him until he graduated, in 1872, from Bellevue Medical College, N. Y. Immediately after graduating he received the appointment of interne to the college hospital. During his two years' service in that position some of his hospital interne

associates were Drs. L. G. Brooks, M. Figuira, M. G. Fleming, W. H. Farrington, J. L. Perry, W. H. Fluher, J. D. Griffith, S. C. Arnold. In connection with L. G. Gray he opened an office on Forty-ninth street, New York City. In the latter part of the same year (1875) he left New York and formed a partnership with his brother, Dr. G. W. Terriberry, in Paterson. This partnership remained intact until 1890.

For several years previous to his death Dr. Terriberry suffered much on account of a rheumatic diathesis. An acute attack of nephritis of a week's duration culminating in uræmic coma ended a career notable in its usefulness to suffering humanity. He was, perhaps, known more as a surgeon than as a physician. His work as a member of the surgical staff of St. Joseph's Hospital for a quarter of a century, and for a less time on the staff of the General Hospital, attests this fact. But although excelling as a surgeon, he possessed almost an equal ability as a physician, his opinion as a medical consultant being often in demand, especially in recent years.

Always ethical in his professional conduct; ever careful of the interests and feelings of his brother practitioner under any circumstance; giving generously out of the wealth of his experience; kind, courteous and considerate, even to the most obscure; never ostentatious in his methods; never quarreling with those holding opposite views, while still loyal in affirming his own; never exacting; never excited; never selfish—he had erected a character that compelled the respect and admiration of the many, and that touched the deeper springs of affection in the hearts of the few.

His wife, who was the daughter of the well remembered Dr. John Quinn, and whose sudden death a few years ago was a severe shock to her devoted husband, left to his care and love five daughters, the oldest of whom is sixteen years old.

Extending our sympathy and condolence to them in their bereavement, and mingling our tears with theirs over our common sorrow and loss, we wonder sadly at the mysterious ways of Providence.

ADONIS NELSON, M.D.

BY C. R. P. FISHER, M.D.

Dr. Adonis Nelson, who was a member of the Somerset County District Medical Society at the time of his death, was born at Washington's Crossing, N. J., June 4th, 1856. He graduated from the Nor-

mal School in Trenton in 1874, and after teaching for about two years, began the study of medicine, graduating from the University of Pennsylvania in 1879. After practicing for a short time at Baptisttown, in Hunterdon County, he located at Neshanic Station, Somerset County, where he attended to the medical needs of a large clientele until a few months before his death, on March 23d, 1901.

Dr. Nelson was a man whose uniform kindness and gentleness, together with a marked degree of professional skill, endeared him greatly to his patients and friends. Never a man of strong physique, the exposure incident to a country practice was too great for him to endure, and he developed pulmonary tuberculosis, from which he died on the date above mentioned. He is survived by a widow and two children, a son and daughter.

WILLIAM BAUGHART RIBBLE, M.D.

Dr. William Baughart Ribble, one of the oldest and widely known physicians of Somerset County, died suddenly at his home in East Millstone, N. J., on Friday, June 8th, 1900, of angina pectoris. Dr. Ribble was born near Hope, Warren County, N. J., June 3d, 1825. His early education he obtained largely through his own efforts, including three years of study at Lafayette College. He left college without graduating, and entered upon the study of medicine at the Berkshire Medical College, at Pittsfield, Mass., from which institution he graduated in 1849. Following graduation he practiced at Peapack and Succasunna, of this state, for a while, but went to East Millstone in 1858, in which location and vicinity he was actively identified professionally up to the day of his death.

Dr. Ribble was elected to the Somerset County District Medical Society October 25th, 1860, and was from then to his death an active and honored member of the society. In 1865 the honorary degree of A.M. was conferred upon him by Lafayette College. Dr. Ribble was a genial man. His friends among the profession were many and warm, and his relations with the laity were cordial and lasting. Though troubled in his latter years by the impairment of his hearing, yet his professional advice was constantly sought by those who rightly appreciate the gathered wisdom of a half century of successfully active practice. In the death of Dr. Ribble the community in which

he lived and worked has lost an honored member, the profession in the state and county a valued and appreciated associate, and his friends and relatives one whom they rightly loved and honored.

WILLIAM A. M. MACK, M.D.

BY NORTON L. WILSON, M.D.

Dr. William A. M. Mack died suddenly at his home on the morning of January 14th, 1901. He had long suffered from an aortic lesion of the heart. He was born on the fifth day of October, 1857, in Newport, Hunterdon County, N. J. He was the son of William and Ellen (Murphy) Mack. At the age of fourteen he was graduated from Mondalia Academy, in Glen Gardner, N. J. Entering the activities of life as a messenger boy in a telegraph office, he soon acquired the art of telegraphy, and at the age of seventeen was given an important position in charge of the telegraph office of the C. R. R. at Elizabethport. It was while engaged at this office that he read medicine between the clicks of his instrument. He studied under the guidance of the late Dr. Thomas L. Hough, and after two years entered Bellevue Hospital Medical College, where he graduated with honor in the spring of 1878. Receiving his diploma, he at once entered active practice in Elizabethport as a partner of Dr. Hough. From the beginning of his practice he stood well up among the front ranks of his profession, and soon built up the largest and most lucrative practice in Union County. Dr. Mack was President of the County Society in 1892–3. He was the third President of the Clinical Society in connection with the Elizabeth General Hospital and Dispensary, and served for twenty years as visiting physician to that institution.

Twenty years of his services were given to the city as a member of the Board of Health.

There was no more loyal member of this society than he, and at the last meeting held at Atlantic City he was present and thoroughly enjoyed the meeting of the American Medical Association.

Dr. Mack was an active member of the Masonic fraternity, as well as many other organizations. He was an ardent Republican, and at the time of his death was serving his second term as the Chief Executive of the city of Elizabeth. He occupied a high place in the hearts of his people, as was universally attested at the time of his death. Personally, he was handsome, kind, gentle, social and generous to a

fault. He was a skillful physician, possessed of those attributes which go to make up the successful doctor. He was conscientious in the performance of every duty, and never turned a deaf ear to any call, night or day. He was beloved by rich and poor alike, and in his death the medical profession have suffered a great loss.

WILLIAM STITES, M.D.

BY CHARLES B. SMITH, M.D.

William Stites, M.D., of Washington, Warren County, N. J., died on March 8th, 1901, after a long illness, but one which confined him to his bed only two weeks. Dr. Stites was born at Phillipsburg, N. J., July 10, 1834. After completing his education at the common schools in the vicinity of his home, he learned the trade of a machinist, at which he continued to work for about four years. Then, realizing that there must be better things within his reach, in the study of medicine, he began the study of his chosen profession with the late Joseph F. Sheppard, M.D., of Phillipsburg, N. J. After spending two years with the doctor, he entered the University of Pennsylvania, from which he graduated in 1868. He at once located in Milford, Perry County, Pa., practicing his profession for six years, when he removed to Erwinna, Bucks County, Pa. He remained here a short time, when he removed to Washington, N. J., and continued his chosen work until his death, interrupted many times during the last six years of his life by painful illness.

The doctor's ancestors, on both sides, were of pure Revolutionary stock. His paternal grandfather, William Stites, coming to this country from England in 1774, who, with two brothers, settled near Newton, Sussex County, N. J., and espoused the cause of the American colonies, his grandfather having enlisted in the Continental army, served with distinction until the battle of Princeton, January 3, 1777, where he was badly wounded, and removed from thence to Paulus Hook (now Jersey City), where he died.

His maternal grandfather was the celebrated Dr. Benjamin Rush, a Revolutionary surgeon and diplomat, a signer of the Declaration of Independence from Pennsylvania, whose fame and name are world-wide, and after whom the Rush Medical College, of Chicago, is named, as well as other institutions of learning.

In 1891 Dr. Stites became a member of the District Medical Society for the County of Warren, and served as its President in 1892. He was also a member of the Tri-County Medical Association of Warren, Sussex and Morris counties, and the Lehigh Valley Medical Association, Pa. It always gave the doctor great pleasure to attend his society meetings, and he was always present except prevented by illness or professional duties. The industry, conscientiousness and self-sacrificing nature of Dr. Stites were remarkable, never hesitating to respond to professional calls, whether rich or poor, giving freely his time and skill to all classes alike.

He was an active and faithful member of the Methodist Church for thirty years, being a steward thereof for many years.

The doctor was one of the promoters of the Board of Health of Washington, N. J., and continued a valuable member of the organization until three years before his death, when he resigned on account of failing health.

In 1857 he married Miss Rebecca H. Beisel, of Allentown, Pa., who has ever been his faithful, devoted wife and true helpmeet, and who survives him, together with two daughters—Miss Anna, at home, and Gertrude, wife of Dr. F. J. La Riew, of Asbury, New Jersey.

The doctor was also quite prominent in Masonic circles, having been a member of Temple Chapter, No. 12, R. A. M., and a Past Master of Mansfield Lodge, No. 36, F. & A. M., of Washington, N. J. He was also Treasurer of the local council of the Knights and Ladies of the Golden Star.

REPORTS OF DISTRICT SOCIETIES.

ATLANTIC COUNTY.

To the Chairman of the Standing Committee, etc.:

The Atlantic County Medical Society has held its regular meetings during the year at Atlantic City. These meetings although fairly well attended, have been mainly business in character. The Society has, however, added several new members to its roll.

It is a happy privilege to report that no deaths have reduced the membership of the Society during the past year.

The health conditions of the county have been quite good, and no epidemics have been reported.

A. B. SHIMER, *Reporter.*

ATLANTIC CITY, June 15, 1901.

BERGEN COUNTY.

To the Chairman of the Standing Committee, etc.:

I am pleased to report the flourishing condition of the Society. Regular quarterly meetings have been held throughout the year at Hackensack and Englewood, alternately, which have been well attended, and much interest has been displayed among the members. Many interesting papers have been read before the Society, some of which I inclose for separate insertion. I regret that my circular letter to the members brought so few responses, hence my report must me somewhat curtailed.

Several new names have been added to our membership roll during the year, and it is pleasing to note the Society increasing in interest as well as in members.

Dr. David St. John, Hackensack, reports a case of cæsarean section, also an operation for strangulated hernia. Dr. St. John also presented to the Society a new rib shears, of his own invention.

Dr. L. B. Parsell, Closter, reports a case of empyema, following pneumonia, in a child 9 years of age, treated at the Englewood Hospital, by incision and drainage, with complete recovery. He also reports an unusual number of cases of pneumonia during the winter and spring.

Dr. H. C. Neer, Park Ridge, reports measles quite prevalent during the early part of winter, and scarlatina during the early spring. He reports very few cases of diphtheria, and of a mild type. Mumps were quite prevalent during the winter months. La grippe continued throughout the winter, of a severe form. Dr. Neer reports an unusual number of cases ef pneumonia from December to April. Rheumatic and neuralgic affections have been unusually frequent and of a severe form. Dr. Neer remarks that the season has been one of an unusual amount of sickness.

Dr. T. L. Gregory, Englewood, reports an epidemic of whooping-cough occuring in her practice at the present time. Dr. Gregory also reports a case of membraneous dysmenorrhœa. She states that she was called to see the patient who thought she had a miscarriage, and the doctor was shown a mass which was expelled with what appeared to be labor pains. The mass looked like a piece of placenta, but was very white, measuring about 2 x 3 inches. Dr. Gregory states that she curetted and found a number of shreds of similar tissue, but nothing else. Patient had two children, and one miscarriage occur-

red two years ago. She has always passed shreds during menstruation and thought it a normal condition; has menstruated once since and passed similar shreds.

Dr. Max Wyler, Fort Lee, reports an epidemic of whooping-cough lasting throughout the whole year. Dr. Wyler writes: "I observed an interesting and new feature in about one-third of the cases. These patients after being affected for about six or seven weeks and after being rid of the cough for about two weeks, and seemingly well, had a new attack, lasting for two or three weeks more with the same severe spasmodic cough, with no fatal terminations."

Dr. Wyler also writes: "I was called to see a boy of 13 years, who had been suffering from toothache, and during the night his father had given him some cognac. In trying to awaken the boy in the morning the father found that he could not be aroused, and I was sent for. I found the patient in complete coma. Shortly after he was seized with epileptiform convulsions, changing to total opisthotonos. The treatment consisted in ice to the head, neck and spine, inhalations of chloroform. Chloral hydrate and bromides had no effect, and the boy died in about 10 hours, without regaining consciousness. After questioning the father as to how much alcohol was given I found that he had given the boy about 12 ounces in 6 doses, which I hold responsible for the condition."

Dr. J. E. Pratt, Dumont, reports an epidemic of chicken-pox. Dr. Pratt also reports a case of hepatic abscess with absence of chills or fever after the first few days. The abscess discharged through the diaphragm and bronchi with complete recovery. Patient lost sixty-five pounds during illness of two months. Concerning the subject for discussion, viz.: "What reliance can be placed upon the image produced by the X-ray from a

medico-legal standpoint," the members state that they have had no experience.

Bergen County has recently lost one of its most prominent members. Dr. John Adams Wells died of pneumonia at his home in Englewood, on Tuesday, May 21st, after but one week's illness. His death will be a great loss to the Society, but more especially will it be felt by the community in which he lived. Dr. Wells was born in New York City January 17th, 1856. He graduated from Yale College in 1876, after which he began the study of medicine at the College of Physicians and Surgeons, New York, where he received his medical diploma in 1879. After serving three years as an interne at the Presbyterian Hospital, he began the practice of medicine in New York City, and in the same year he removed to Englewood, where he has since practiced his profession up to one week before his death. Dr. Wells had built up a large practice, being especially interested in surgery. He was prominent in bringing to its present state of efficiency the Englewood Hospital, in which he has always been deeply interested, and his untiring efforts for the welfare and advancement of the institution will long be remembered by his associates, as well as by the community at large. He leaves a widow to mourn the loss of an affectionate husband. I regret that neither time nor space will permit me to enter more fully into Dr. Wells's career, but I trust at the proper time it will find a place in the Transactions of the Society.

JAMES W. PROCTOR, *Reporter.*

ENGLEWOOD, N. J.

*REPORT OF CASE OF CÆSAREAN SECTION.

BY DAVID ST. JOHN, M.D.,

VISITING PHYSICIAN AND SURGEON HACKENSACK HOSPITAL, HACKENSACK, N. J.

Mrs. H. O., age 25, American, primi gravidi, was admitted to Hackensack Hospital September 18, 1899, in ninth month of gestation; she feared accouchment, owing to marked spinal curvature, existing from infancy. General good health; under size; dark complexion; weight, 100 pounds.

PELVIC MEASUREMENTS.

Ext. between crests of Ilium, - - -	9½ in.
" Ant. Sup. spines, - -	10 "
" Trochanters, - - -	11 "
External conjugate, - - -	6 "
Diameter of outlet, *only* - - -	2 "

Since it was evident that fœtus could not be born "per vias naturales," Cæsarean Section was determined upon.

The patient had nutritious diet, the bowels regulated, daily baths given, and abdomen *thoroughly* asepticised. Urinary analysis—Alk. reaction, 1,014 Sp. Gr.; no albumen.

At intervals for several days she complained of slight pains in back and supra-pubic region.

September 25, at 2.30 P. M., labor pains beginning, patient was taken to operating room, catheterized, and abdomen again thoroughly cleansed, using green soap, bichloride sol., alcohol, and ether freely.

Operation performed by Dr. St. John, assisted by hospital staff. A hot vaginal douche having been given, the cervix was dilated, and vagina loosely filled with iodoform gauze. Abdominal incision then made in median line, 6 inches long; no hemorrhage; wall thin, and intestines not in way. Uterus lifted out and surrounded by warm, sterile gauze. Made longitudinal incision in uterus 5½ inches long; punctured amnion; enlarged opening with scissors, grasped foot of child, lifted it out and handed to assistant to care for; cord clamped and cut.

*Read before the District Medical Society for the County of Bergen.

Uterine contractions immediately set in. The placenta loosened and delivered, the uterus was then cleared of remaining membranous shreds, and loosely packed with strips of iodoform gauze, a strip for drainage having first been run through cervix.

Hemorrhage was controlled by compressing uterine arteries with hands. Thirty minims of aseptic ergotol was given hypodermatically as soon as uterus was emptied. Uterine incision then closed by two sets of sutures, the deep with No. 4 silk, 2-5 of an inch apart, the superficial with No. 2 silk. Gauze removed from uterus before tying sutures. Uterus cleaned of blood and returned to abdomen. Pelvic cavity mopped out, though little needed, for well protected by sterile gauze and towels.

Abdominal incision closed with extra heavy silk; no drainage.

Time under ether, which was given by Dr. H. C. Neer, 29 minutes. Time from beginning first incision in abdomen till last suture tied, 24 minutes. Very little hemorrhage.

Wound dressed with iodoform, iodoform gauze, sterile cotton and binder. Solution used during operation, sterile salt.

Cervical drainage removed on 27th. Lochia normal. Seven days after operation dressing changed; wound clean and dry and stitches removed; incision perfectly united. Twenty-five days after operation patient sat up.

After the first few days, during which time patient was restless, requiring very careful nursing and stimulation, she regained strength rapidly, and was discharged from the hospital November 6—six weeks after the operation.

Credit is due House Surgeon E. A. Scott and Nurses E. F. Crum and C. J. Shepherd for intelligent and faithful care of this case.

Mother and child both doing well. Child weighed 7 lbs. at birth.

Some authorities advise dilating the cervix after the uterus is emptied; but why should any time be lost during this important step in the operation when it can be done so readily and with no need of haste just before opening abdomen?

Although it is advised to bring uterus out of abdomen before incising, in all cases where sepsis is suspected, it would seem to be better in other cases as well, owing to the greater ease of handing.

Uterine hemorrhage can be effectually controlled by an assistant grasping the uterus firmly low down near the neck with both hands, thus avoiding the dangers of subsequent atony or post-partem hemorrhage, so apt to follow when a rubber ligature is thrown around uterus.

REPORT OF OPERATION FOR STRANGULATED HERNIA.

BY DAVID ST. JOHN, M.D.,

VISITING PHYSICIAN AND SURGEON HACKENSACK HOSPITAL,

HACKENSACK, N. J.

MURPHY'S BUTTON USED. EXPELLED THIRTY DAYS AFTER.

Mrs. S., German, age 63, entered Hackensack Hospital, October 21, 1899, with strangulated inguinal hernia of left side. Stercoraceous vomiting and hiccough with history indicated descent of four or five days duration.

At 4.30 P. M., Dr. St. John operated, assisted by Drs. Sickenberger and Swayze.

The abdomen, though previously scrubbed with green soap, bichloride and alcohol, was again cleansed. The patient anæsthetized, Dr. St. John made a two-inch incision parallel to the long axis of tumor mass, over the upper part of sac. This was continued down to sac, upon opening which a small amount of serous fluid escaped. The gut itself was black, cold, lustreless, flabby, and remained so after dividing constriction; a small perforation was also present.

It being evident that the strangulated part was beyond repair, a loop of intestine was brought out and encircled with warm, moist, sterile gauze. Clamps were applied in sound tissue and about four inches of gangrenous gut resected. Ends were joined by a mediun sized Murphy's button. Intestine cleansed and returned to abdomen. A drainage tube was inserted, incision closed, iodoform dressing applied. There being no drainage through tube, it was removed on following day. Wound healed rapidly, barring a slight stitch abcess.

Patient did well, suffering but slight pain, and that from flatus. Nutrient enemas of peptonized milk were given every three or four hours, with peptones and beef juice per mouth until 12th day, when mush and milk were ordered. From this time patient had light, nutritious diet—milk, broth, cereals, puddings, etc.

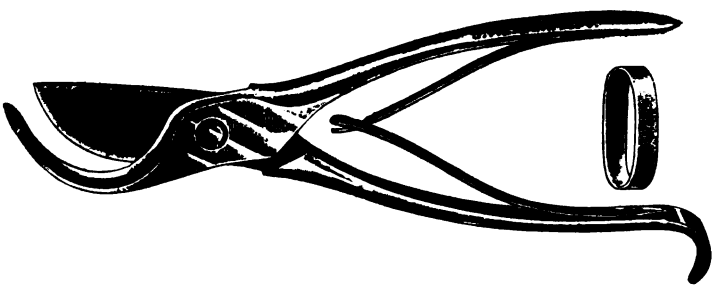
November 21, thirty days after operation, button was expelled.

At no time did the temperature exceed 100.3 deg. F. (usually under 100), and pulse ranged between 90 and 100.

Patient was discharged December 2, and is well at present writing.

Dr. J. B. Murphy, designer of the button, informs me that it has been expelled as late as the hundredth day after operation.

A NEW RIB SHEARS.



BY DAVID ST. JOHN, M.D., HACKENSACK.

Careful observation of cases of pyothorax in hospital and private practice has convinced me that the only way to entirely remove the clots of fibrin and pus from the pleural cavity is by resection of a rib, some surgeons to the contrary, notwithstanding. The operation of resection is strongly advised by so eminent an authority as Prof. E. G. Janeway, who believes that convalesence and recovery is more speedy and sure than by simple incision. The above cut represents a rib shears in which I have aimed to combine strength, ease of cutting and safety in a simple and perfectly aseptic instrument.

The cutting edge, comparatively short and of pronounced curve, does not crush the ribs as does a straight blade or bone forceps, but cuts more like a pruning knife. The lower blade is curved to more closely apply itself to the rib to be resected and does not impinge on the adjoining rib. The end is probe-pointed so that the lung and pleura are not endangered in its introduction. The strength of this blade is in its width, so that the thickness will not tear the periosteum from the bone which remains after resection.

The curve also allows the blade to dip down (desirable in fleshy subjects), and this admits of the handle being nearly horizontal where the operator can exert the most force. The blades are separable and springs attached by same lock.

To Mr. Julius A. Pfarre, of George Tiemann & Co., I am indebted for suggestions in perfecting the instrument.

BURLINGTON COUNTY.

To the Chairman of the Standing Committee:

During the past year the members of the profession in Burlington County report that there has been rather more than the usual amount of sickness, especially during the early spring months of 1901. During January we experienced a recrudescence of our old friend, "La Grippe," which was extensive enough to amount to an epidemic and almost rivalled in extent, though not in intensity, those of '89, '91 and '99. Most of the cases have been mild, though almost all of the common complications have shown themselves. Abscess in the frontal sinues has been a very frequent occurrence. Dr. Shipps, of Bordentown, reports that with them most cases took the form of an obstinate gastro-intestinal catarrh, which untreated, ran on indefinitely, but, under rest in bed, salol, bismuth, and Dover's powder, usually yielded in a short time.

Dr. Taylor, of Beverly, reports ear troubles, nasal catarrh and glandular swellings as sequels, and has also had several cases of pneumonia. The community seems to be gradually acquiring a partial immunity to the bacillus, and the more severe cases seem to be in those who have never succumbed to it before. Nothing new has been proposed in its treatment, but the value of rest in bed is increasingly recognized both by the profession and the laity. There was last fall rather more than the usual amount of intermittent fever, and recurrences this spring have been very common. The reports received would indicate that there has been less typhoid fever than usual, and in a mild form. Dr. Taylor, of Beverly, thinks of late years the cases in his neighborhood have been less severe and of shorter duration than in times

past. He attributes this to more rational treatment, "especially to the use of the bath, either by sponge or tub, and in general practice, it must be chiefly limited to the sponge." He says he can hardly recall a case, such as was commonly seen years ago, of fissured tongue, teeth thickly coated with sordes, intensely tympanitic belly, and very active delirium. I believe these observations will apply to other parts of the county as well as Beverly. Scarlet fever seems to have been the most widely-spread contagious disease during the past year, and the reports uniformly speak of its mild character. The remarks of Dr. Taylor are peculiarly appropriate. He says: "Scarlet fever has continued with us for several months. Its continuance has been largely due to its mild character, and the inability on that account of the Board of Health to properly quarantine the cases, as no physician was called to see many of them, and the children after three or four days were allowed to mingle with their playmates, and thus disseminate the disease. I often find it very difficult to convince the parents that the children have scarlet fever, when the cases are mild, and it is often only when a second or third case occurs in the family that they are persuaded of the correctness of the physician's view. I think another point in this matter is that the public make a distinction between scarlatina and scarlet fever, considering the former term as properly applicable only to the lightest form of the disease, and the latter (scarlet fever) to the most grave. This idea is, I think, also fostered by some physicians. I would enter a protest against it here, and call upon my fellow practitioners to give it the Anglicized term, and then give the public no opportunity for caviling. Scarlatina is as much scarlet fever as a fractured tibia is a broken leg. In my own practice I have had but six cases

in the past year of the anginose variety, with no deaths; no sequelæ of any severity, save one case of absolute deafness." Dr. Marcy, of Riverton, notes also the mildness of the attacks, and especially the frequency of its occurrence in patients over 15 years of age, some of them adults. He details one adult case, with an extremely interesting complication: "A young man over 30, who had hiccoughs as an accompaniment. He began to hiccough on the third day of the disease, after the eruption had thoroughly developed and continued uninterrupted for eight days and nights. All the usual and many unusual remedies were tried, but nothing seemed to have the slightest controlling influence upon them. His condition became very serious from sheer exhaustion. Specific medication was abandoned, and all my efforts directed to keeping up his strength, e. g., strychnia hypodermically, digitalis and champagne, concentrated nourishment by mouth, etc. He eventually made a good recovery." The rarest medical event in our county during the year has been an epidemic of small-pox, in Mt. Laurel township, about three miles from Moorestown. This is the first time in eighteen years, that any case has been known in this vicinity, and our immunity has led to a great neglect of vaccination. The first two cases occurred in a colored family, and were so mild that their true character was not recognized. Unfortunately they occurred next door to a colored church during a "revival season," which afforded an excellent opportunity for disseminating the germs. The local Boards of Health took immediate action, general vaccination was urged, and mostly acceded to, free vaccination offered those who could not afford it, many of the cases were taken to a temporary isolation hospital, and the epidemic was limited to fifteen cases, all but three of whom were colored.

As in almost every part of the United States during the past two years the cases were marked by their mild character. Indeed, residents of the neighborhood who heard the sounds of hilarity proceeding from the pest house could hardly be made to believe that they were face to face with so serious a disease, and the efforts of the medical attendants to promote general vaccination were frequently frustrated by this skepticism. Fortunately the profession was not disgraced by the disputes over diagnosis, which have not been rare in many other localities, and all six physicians who saw the cases unhesitatingly pronounced them true variola.

Neglect of vaccination and re-vaccination is largely responsible for the outbreak. Of the fifteen cases, eleven* had never been vaccinated, the other four had been vaccinated in infancy and never revaccinated. Of these four only two had typical scars. All the vaccinated had extremely mild attacks, no secondary fever, and no pitting, while the only severe cases occurred in those entirely unprotected. It is fair to assume that had all these fifteen individuals been properly vaccinated in infancy, and revaccinated at puberty, the outbreak would not have occurred. During the general vaccination brought about by this little epidemic it was surprising to find not only how many in the community were unvaccinated, but with what apathy it was often regarded, even by intelligent persons who should know better. The constantly reiterated false teachings of the anti-vaccinationists have produced considerable impression, and it is seldom that much pains are taken by the regular profession to contro-

*Among the unvaccinated cases I have included three who were vaccinated only three days before the small-pox eruption appeared, and hence had no opportunity to experience its protective power. In two of these cases the vaccine sore ran its typical course during the small-pox eruption.

vert them. In my opinion there are few points in public hygiene which need to be more constantly kept before the public mind than this, and I believe it to be our duty, not only to be thoroughly familiar with the facts ourselves, but to be able to present to our clients in a succinct way the statistics as to the ravages of the disease in the past, and of the remarkable control exerted by it, over epidemics at present.

Dr. Shipps, of Bordentown, reported medical inspection of their public schools, "with the result of finding a large percentage of the pupils suffering from defective sight or hearing. About 50 per cent. had not been vaccinated."

Dr. Taylor, of Beverly, the Secretary of our Society, reports "the meetings of our County Society have been well attended and of much interest. The division of the work for discussion into three sections has proven successful, as it makes the responsibility for at least a portion of each meeting's work a personal matter with the chairman of the section. The discussions and reports have, as usual, been confined to a comparatively few of the members—a condition to be regretted, as each member must have matter of interest both as to rarity of case and modified ideas of treatment, due either to peculiarity in the case or to discovery or interpretation of the attending physician, and which of right belong to the profession.

During the year, Dr. L. M. Halsey, ex-President of the State Society, has addressed us upon the state care of tuberculosis.

Dr. Charles P. Noble, of Kensington Hospital, upon gynæcological work.

Dr. E. B. Evarts, physician in charge of Woman's Hospital, Philadelphia, has read a paper upon pus in the pelvis.

Of our own members, papers have been read by Dr. E. Weeks Metzg, upon "labor;" Dr. I. Hollingshead, "chorea and its treatment in severe cases."

Dr. Shipps: "Simple fracture of the femor with two cases of delayed union;" also upon tuberculosis.

Dr. Marcy: A paper upon movable kidney from the standpoint of the general practitioner, distinguishing the movable from the floating kidney.

Dr. Small: A paper upon appendicitis; also upon anæsthetics and anæsthesia, especially the recent form of spinal anæsthesia.

Dr. Marcy, of Riverton, also presented the following series of interesting cases:

Reprinted from the *University Medical Magazine*, December, 1900.

A BRIEF REPORT OF A SERIES OF INTERESTING CASES RECENTLY SEEN.*

BY ALEXANDER MARCY, JR., M.D., RIVERTON, N. J.

Case 1.—Mrs. A. A., strong, healthy, well-developed woman. I was called to see her on April 28. She was suffering from a very mild bronchial catarrh. On the 29th I was hastily summoned, and found her dead. She was lying on the floor of her bedroom, on her back, with her legs drawn up and uncovered, and beside her was a wash-bowl containing some clear fluid, presumably water, with a syringe in it. She was four and one-half months pregnant, and as she apparently had no reason for committing suicide, the cause of her death was somewhat obscure.

A careful autopsy found all her organs in a perfectly healthy condition. There were no macroscopic evidences of traumatism in the vagina or uterus, and I believe her death was due to shock, caused by an attempted abortion.

Case 2.—H. F., aged 21, was riding a bicycle and was injured in a head-on collision with a horse and road-cart. Both parties were going at a high rate of speed, and the bicycle rider was thrown about ten feet. When picked up he was somewhat dazed, but did not seem to

*Presented to the Burlington County Medical Society at its June meeting.

be seriously hurt. I saw him about half an hour after the accident, when he complained of great pain in his abdomen, in the right hypochondric and iliac regions, and a feeling of pressure in the bladder and rectum. He vomited shortly after being struck, again in a few minutes, and again in about an hour. The matter first vomited contained some blood and partly digested food, but at the subsequent times it consisted entirely of partly digested food. As his nose had been bleeding, it was thought possible that the blood might have been swallowed.

Careful inspection of the abdomen revealed no evidences of injury, excepting a slightly bruised and abraded spot, an inch and a half long by one inch wide, over the gall-bladder region. Palpation and percussion revealed no localized dullness or tenderness. His temperature was normal, and pulse 100; no marked evidences of shock. He was given morphia gr. ¼ and atropia gr. 1-120 hypodermically, and hot fomentations were kept on his abdomen. At 2 o'clock I saw him again, and found him still suffering great pain referred to the right inguinal region, and there was a sense of fullness in the bladder and rectum. Catheterization produced one half-pint of clear urine, the withdrawal of which did not relieve the sense of fullness in his bladder. His temperature was still normal and pulse 100; skin warm; no shock, but intense thirst, which was not relieved by copious draughts of water. I gave another hypodermic of morphia and atropia and continued hot applications to abdomen.

I did not see him again until 9 A. M., and at this time I found him pulseless, blue and cold, and slightly delirious from cerebral anemia, undoubtedly due to internal hemorrhage. I gave strychnia hypodercally, placed hot bottles round him, and transfused him by injecting a quart of normal saline solution into his circulation. As a result of this his pulse returned at the wrist, his color improved and there was a cessation of the delirium. This condition lasted but a short time, and I transfused again, but, while the immediate results were good, the improvement lasted but a little while, and at 1 o'clock he died.

The autopsy revealed a most extensive injury to the stomach and bowel, which the specimen shows very plainly. There was an extensive tear of the stomach as well as of the duodenum, and laceration of the mesenteric vessels and adjacent tissues.

His temperature before death was 104°, and the peritoneum showed evidences of a marked inflammation.

He died from internal hemorrhage.

Case 3.—H. W., complained of pain in his abdomen May 28, but was not sick enough to give up his work. The pain continued until the 30th, when his wife came to the office for some medicine. I sent him some small doses of calomel and told her to report his condition the next day. On the 1st of June he reported at the office himself, saying the pain was no better, and he had to quit his work and was on his way home.

On examination, I found his temperature normal, pulse 70, tongue coated, no nausea or vomiting, bowels slightly constipated. He complained of severe pain in the abdomen, and located it in the right lower quadrant. Palpation revealed a distinctly tender and enlarged appendix.

I ordered him home and to bed, gave more calomel, which was to be followed by two-drachm doses of Glauber salts until his bowels had been freely moved at least three times.

That evening I was called to see him and found the pain still severe and the bowels had not moved. Temperature was 100°, and there was decided tenderness over the appendix. I ordered an ice-bag over the appendicial region and gave half-ounce doses of salts every two hours and by morning the bowels had been freely moved a number of times and the temperature was normal. Pain was still present and tenderness very decided over the appendix. The ice-bag was continued, small doses of calomel given, and absolute rest in bed with restricted diet insisted upon. The following day showed no improvement, some pain and marked tenderness on pressure being present. Evening temperature was 100° and the morning temperature nomal. There were no chills or sweats. I advised operation, and it was done the following day by Dr. H. C. Deaver.

On opening the abdomen the omentum was strikingly noticeable, being very much thickened and surrounded by a mass of inflammatory exudate. No appendix was found coming off from the cecum. While handling the thickened omentum, the appendix was found imbedded in it, and when eviscerated was found to arise from the hepatic flexure of the colon, instead of from the cecum—a very unusual location. The patient made a very good recovery from operation.

Case 4.—A. B., young Irish girl, aged 34, was taken sick on Friday, June 1. I was asked to see her as soon as possible, as she was suffering considerable pain. Being engaged at the time, I asked my assistant to see her for me. He reported her as suffering from pain

in the abdomen and back, supposedly post-menstrual, had slight fever, but presented no evidences of serious illness. I saw her at 2 P. M. the following day, and found her critically ill with septic peritonitis; temparature 103½°, pulse 130. Abdomen distended and very tender. Vomiting, and a pinched and anxious expression of countenance. As she was a nurse-maid, and in the third story of a boarding-house, I concluded the best plan for her was removal to a hospital and had her sent to the German Hospital at once, feeling that her only hope of recovery must come through operative measures. When she reached the hospital she was so ill they would not attempt an operation, and on the third day after admission she died.

Autopsy revealed a perforating round ulcer of the stomach as the cause of the peritonitis.

Strange to say, the girl believed herself perfectly well until the day I was first sent for, and at no time did she exhibit a single symptom of ulcer of the stomach.

Case 5.—Mrs. K. Q., aged 60. Some years ago had gangrene of her feet, and one of them was amputated. Since that time she has been fairly well, until recently. A few months ago she called my attention to a lump in her left breast, which on examination proved to be a scirrhous cancer.

On June 14 she fell while trying to walk across the floor and struck heavily on her knees, and was not able to get up. Examination revealed an intercondyloid fracture of both femurs.

I consider this group of cases of more than usual interest, and worthy of some remarks. The first case is interesting from a medico-legal standpoint, and proves, I think, very conclusively that sudden death may occur from the attempted introduction of a foreign body into a pregnant uterus.

To my certain knowledge this woman had produced a number of miscarriages before this attempt, and had probably always employed the same methods; but for some reason, this time it was followed by fatal results. The manner in which death is produced in such a case is interesting speculation. My own opinion is that it is caused by shock, through the influence of the sympathetic nervous system and the pneumogastric nerve.

The second case is a most interesting one, and shows very plainly how it is possible to have most extensive visceral lesions follow a blow upon the abdomen, without there being any marked external

evidences of serious injury. Another very interesting point is, that you can have rupture of one or more of the hollow viscera, with but slight constitutional disturbances, as manifested by temperature and pulse rate; and very little, if any, shock. A most significant symptom, always present in such cases, is *severe, persistent pain*, which is not relieved by morphia, or if so, only temporarily, following a blow upon the abdomen. One would be justified in making a diagnosis of visceral injury from this symptom alone.

The third case is worthy of our most careful study. It is just such cases as this that are lost by so-called conservative treatment. A mild case of appendicitis, apparently doing well under purely medical treatment. If you will examine this appendix carefully, you will find at its distal extremity a small point of necrotic tissue, and undoubtedly it would have ruptured at that point in a few hours. More than this, if it had ruptured, and infected that mass of omentum, it is not likely that he could have escaped a septic peritonitis.

The escape of pus from an appendiceal abscess into the peritoneal cavity almost always proves fatal.

The symptoms which guided me in determining operation in this case were pain and tenderness after the bowels had been very thoroughly emptied. I disregarded his normal temperature and pulse as well as absence of vomiting, and my decision rested entirely on the fact that tenderness was just as marked twelve hours after the bowels had been thoroughly moved as it was before.

Cases 4 and 5 are interesting simply on account of their unusual character. Perforating round ulcer of the stomach is usually manifested by well-marked symptoms, but occasionally occurs without being suspected. This case was unique, so far as my experience goes, and I was entirely at a loss to account for the sudden infection of the peritoneal cavity, but I supposed the source of infection must have been either a so-called fulminating appendicitis or a ruptured pus tube.

The last case was certainly a very rare form of injury, and although I have not had time to look up the literature, I doubt very much if I can find a parallel case recorded.

There has been little expression from our members as to the reliance to be placed upon the image produced by the X-ray from a medico-legal standpoint. Dr. Marcy says he has had no experience with it.

Dr. Taylor says: "My experience with the X-ray has been quite limited and while I believe it is reliable in the case of fracture or solid foreign bodies, I think it requires in most cases an experienced use and a skilled interpretation of the resulting photograph to make it of value. The pictures exhibited are, I think, very obscure in many cases, to those unfamiliar with the subject."

Dr. Small, of Riverside, says: "My experience in reference to X-ray application from a medico-legal standpoint has not been very great, but several cases that have come under my care in the last two years have proven the X-ray examination to be proof positive of the existence of injuries to bone, and have also discovered broken bones where none were ever suspected. Breaks that have recently been filled with callus allow the X-rays to pass through them, due to imperfect solidification of the callus."

I regret to report that during the past year we have lost our oldest member, Dr. Franklin Gauntt, of Burlington, who died July 7th, 1900. He took the greatest interest in the welfare of our Society, was almost invariably present at our meetings and a participant in the discussions which his long and varied experience made very interesting.

Respectfully submitted,

JOSEPH STOKES, *Reporter.*

CAMDEN COUNTY.

The Camden District Medical Society still maintains its vigorous health. The meetings have been interesting; the attendance very good; the papers excellent, and the hearty feeling of good fellowship more noticeable than ever.

The health of the district has remained about the same with no serious epidemics. In Gloucester City a number of cases of small-pox were reported, but the disease under the energetic measures adopted by the local Board of Health, was soon under control.

The health of the physicians throughout the district has been good; no serious illness and no deaths to thin our ranks, a fact for which we are all thankful.

THE MEETINGS.

During the past year the Society held four meetings, one in October, December, February and May. The May meeting is the regular annual business meeting. The other three meetings are given over to listening to and discussing medical papers.

There were seven different papers presented by the members, and these covered the field of medicine quite thoroughly. Among these was a Medical Historical paper, and also a Medico-Legal paper. In addition to these papers the members had the pleasure of listening to two very able teachers of medicine, one from the University of Pennsylvania, and the other from Jefferson Medical College.

During the October meeting Professor Hobart A. Hare, of Jefferson Medical College, dropped in for a few minutes. He was called on for a few remarks; not coming prepared to speak he gave the histories of two very interesting cases that had just come under his notice. From these cases he drew lessons that were of inestimable value to those present.

At this meeting Dr. Dowling Benjamin reported "An Interesting Case of Cæserean Section."

Dr. Wm. Weland's paper on "The Uses of Anæsthetics in Labor," was very instructive.

Dr. Joseph L. Nicholson gave an extemporaneous talk on pneumonia.

During the December meeting papers were read by Doctors Stevenson, Lippincott, Sherk and Baer.

Dr. John R. Stevenson, of Haddonfield, in a paper entitled "Shifting Sands of Medical Practice," gave a historical review of the rise and fall of the use of a few well-known drugs. The paper was instructive and interesting.

Dr. Joseph S. Baer presented a paper on "Tumors Complicating Labor." This paper was full of good points.

Dr. A. H. Lippincott's paper, "Treatment of Chronic Urethritis." Chronic urethritis in this paper is defined as an urethral discharge lasting over a period of two months from the inception of the disease, and is due to some pathological change in the urethral tract. The object of the treatment is to restore the urethral canal to its normal condition. If the cause of the disease be a stricture, use an injection of zinc sulphate, grs. ii to the ounce, with the addition of white extract hydrastis can. three times daily, instructing the patient to retain it fully five minutes. Or better, if patient can afford it, give him two long irrigations daily of Ag. No. 3, 1-5000, or potass. permang. 1-3000, using fully two quarts at time. Internally, a capsule of copaiba and oil of sandal wood; or what is better, urotropin; this is an excellent urinary antiseptic. After the discharge is checked restore the calibre of the urethra to its normal size if possible. Always bearing in mind that a well organized stricture is seldom, if ever, eradicated. Areas of granular inflammation are best treated by first irrigation of urethra with mild astringent potassi. permang. preferably, and the application through the endoscope of Singers ointment. If the inflammation does not respond to this ointment, Ag. No. 3, grs. v to

the ounce, and a good size bougie will be found efficacious. Internally, the balsamics, avoidance of rich food, alcoholic and sexual indulgence. Ulcerations and areas of hyperemia are treated much the same by the direct local application of silver. When the lesion is far back in deep urethra give the urethral irrigation first, and then allow the solution to flow into bladder, from which the patient can expel it, thus giving the diseased membrane a double washing. Give the balsamics or urotropics internally. Polypi should be removed and their site treated as an ulcer, by local application. Folliculitis responds very slowly to treatment. The best results are obtained by emptying the follicle, and the application of iodine or the galvanocautery needle. In some cases a discharge is kept up by an inflammation of the seminal vesicles or by an infected prostate. In addition to the local and internal medication massage of those organs, by finge r through the rectum, is beneficial. Irrigations and injections are quite as valuable in chronic as in acute urethritis. The cause of so many failures in former condition is due to the fact that chronic urethritis is usually confined to posterior urethra, and the applications do not reach seat of trouble.

In a paper on "Abortion from a Medico-Legal Aspect," Dr. Sherk calls attention to the present law governing abortion in the State of New Jersey, which is as follows:

"Any person who shall maliciously or without lawful justification, with intent to cause or procure the miscarriage of a woman then pregnant with child, shall administer to her, prescribe for her, or advise or direct her to take or swallow any poison, drug or medicine, or noxious thing; or who shall maliciously or without lawful justification, use any instrument or means whatever with the like intent, shall be guilty of a high misdemeanor and punished accordingly; and if the woman or child die in consequence thereof, be punished by a fine not exceeding five thousand dollars or imprisonment at hard labor, not exceeding fifteen years, or both."

Under this law the mere advising or directing anyone to take any means to procure a miscarriage, is made criminal. It has been held by the Supreme Court that it is not necessary to aver that the poison, etc., etc., advised to be taken was actually taken or swallowed. The actual taking or swallowing of the drug by the terms of the statute is not an element of the crime. It has also been held that it is not essential that the physician should actually know that the woman was pregnant. If he acted on the belief that she was it is sufficient. The intent to produce a miscarriage is the essential thing. Thus, if the thing administered for that purpose be hurtful, it is immaterial whether it will produce such a result or not, under the terms of the law the physician is guilty. The mere consent of the woman to swallow the drug or allow herself to be operated upon is no defence. Under the law the act is criminal whether she sanctions it or not.

The February meeting was given over to Professor Alfred Stengel of the University of Pennsylvania, who gave a lecture, instructive as well as exhaustive, upon "The Treatment of Chronic Cordiac Disease, Valvular and Muscular."

The May meeting was the regular business meeting of the year, and was devoted to dry reports, election of officers, appetizing dinners, and after-dinner speeches.

The prevailing diseases during the past year in and around Merchantville as reported by Dr. John W. Marcy have been chicken-pox, la grippe, whooping-cough and scarlatina. These diseases have manifested no unusual symptoms nor have run any unusual course.

From Dr. John R. Stevenson we learn that during the early part of the past year Haddonfield was very healthy, but during the winter months there was much sickness. A number of cases of pleurisy and pneumonia following

la grippe, which appeared early in December and continued until April, several of these were fatal. An occasional case of diphtheria has occured during the year; none were fatal in the hands of the regular practitioner. Variola has not made its appearance in Haddonfield or vicinity as yet, but our people have for years past been callous about vaccination.

Dr. Alexander Marcy writes from Riverton calling attention to the prevalence of scarlet fever among adults in his neighborhood. There has been no epidemic, but the disease has attacked adults oftener than children. But while attacking adults oftener, it has been very mild.

Around Cramer Hill, Dr. H. H. Sherk tells us that la grippe, pneumonia, measles and whooping cough have been quite common.

Dr. Alexander McAlister reports that la grippe and its usual sequalæ has been very prevalent in his practice during January, February and March. Most of the cases were of mild type, a large number of the cases in children had middle-ear inflammation. Pneumonia and rheumatism have been very prevalent also during the past four months. In fact, I have seen more cases of pneumonia than for several years past. The cases were of severe type.

Dr. W. H. Iszard reports having treated during the months of December, January and February, eight cases of double pneumonia and thirteen cases of single pneumonia, ranging in years from fifteen to sixty-five. With no deaths; Dr. Iszard relies on the old and rational treatment. He has also had an unusual number of scarlet fever cases, both mild and malignant, since January 1st, 1901. No deaths.

Several interesting cases have been reported. They are as follows:

Dr. Paul M. McCray reports a successful case of hip-joint amputation—after Wyeth's method—in a man of forty years, for extensive osteo-myelitis, following a crush. The control of the hemorrhage was perfect.

Dr. Alexander McAlister reports two interesting cases. One a woman aged twenty years, in beginning of eight months of pregnancy seized with uræmic convulsions. She had thirty-seven in eighteen hours, no secretion of urine for thirty-six hours. Labor was induced and the patient has made a good recovery.

The other case, a man, J. U., aged forty-three years, stout, florid complexion, was complaining of pain in stomach for three days. Suddenly taken one afternoon with vomiting of blood, and in twenty hours lost by stomach and stool about eighty ounces. Diagnosis, gastric ulcer. This occurred about twenty-four days ago. Patient is now rapidly convalescing. He has been nourished by rectum entirely since attack.

Dr. H. H. Sherk reports an interesting case of membranous croup which accurred in a child 3½ years old. 24 grains of sub. sulphate of mercury in doses of 4 grains were administered without any effect. One grain of yellow oxide was then given, as the last resort. In a short time the child passed, per rectum, an immense quantity of membrane. This membrane being an exact cast of the trachea and upper bronchi. The child made a speedy recovery.

The replies to the question, "What reliance can be placed upon the image produced by the X-ray, from a medico-legal standpoint," were vere few. Those sent in are here given:

Dr. Wm. H. Iszard writes: "As to the X-ray, I would not swear or venture my professional opinion upon it. Yet I believe in many cases it has been of great value in clinical diagnosis, and should not be ignored.

Dr. John W. Marcy has formed no positive opinion, as he has had practically no experience with the X-ray.

Dr. Alexander McAlister writes: "In answer to the question as to what reliance can be placed upon the skiograph from a medico-legal standpoint, it has been admitted as evidence in some cases, and no doubt suits for damages will occur that can be based on the findings of same. You can prove by it that reduction and fixation have been accomplished. It cannot form the basis for amount of damages to be assessed. That will depend, as formerly, upon amount of disability that has been sustained by the plaintiff. The skiograph does not show amount of damages done to the soft parts. This may be judged, however, from the position of bones involved about the places of injury. It is asserted definitely that all fractures in the limbs can be detected by the skiograph, hence its value in fractures located in these parts. Fractures in bones of the trunk have been found in some instances. The skiograph in these cases could not be relied upon with certainty. It is a valuable aid in the diagnosis of fractures and dislocations.

JOHN G. DORON, *Reporter.*

CUMBERLAND COUNTY.

To the Chairman of the Standing Committee, etc.:

Increasing interest, increasing attendance, increasing membership and increasing number of regular meetings briefly epitomizes the work of the Cumberland County District Medical Society for the past year.

Quarterly meetings are now held regularly, and while we invariably have papers from our active members we

frequently have addresses by others who have attained special eminence by their achievements in their respective lines of work.

The July meeting was held at Millville and the sections on progress in obstetrics and therapeutics reported.

The reporter for the section on obstetrics, Dr. T. G. Davis, of Bridgeton, read a paper, entitled, "Personal Observation in Obstetrics;" and the reporter on "Progress in Therapeutics," was Dr. L. L. Hand, of Leesburg; both papers elicited favorable and helpful discussions.

Dr. Jos. Tomlinson, of Bridgeton, reported a case of pyloric carcinoma and exhibited specimen.

The October meeting, held in Millville, was especially important as marking the time when we adopted an amendment to our By-Laws providing for quarterly, instead of semi-annual meetings; and for the very interesting exposition by Dr. D. Benjamin, of Camden, of "Some Mooted Points in Abdominal and Pelvic Surgery."

Dr. C. W. Wilson presented a paper on "The Treatment of Appendicitis from a general practitioner's standpoint."

The January meeting was held at Bridgeton. Dr. Mary J. Dunlap, a newly elected member, was present, this being the first attendance of a woman who was a member, at our regular sessions.

"Progress in Surgery" and "Progress in Medicine" were presented by Dr. Joseph Tomlinson and Dr. David Oliver, respectively. The papers concisely covered the progress made in the branches, and showed conclusively that progress had been made.

Dr. W. L. Newell's paper on "Medical Examiners" was a clear and concise history of the development of this work, and from his paper it was evident that the doctor expects reciprocity among the states to be accom-

plished rapidly, so that the certificates of one state will be accepted by all other states in lieu of examination.

After Dr. Newell's paper we were treated to a masterly treatise on "Lacerations of the Cervix Uteri, their sequelæ and treatment," by Dr. H. D. Beyea, of Philadelphia, in which, by a critical presentation of the physiology, pathology and hystology of the structures the author established his standing as one thoroughly conversant with his subject; a very helpful general discussion took place.

The annual meeting was held April 9th, 1901, at Bridgeton. The following officers were elected for the ensuing year: President, Dr. L. L. Hand, Leesburg; Vice-President, Dr. G. E. Day, Millville; Secretary, Dr. J. E. Applegate, Bridgeton; Treasurer, Dr. Jos. Tomlinson, Bridgeton. At this meeting another of our lady members, Dr. Reba Lloyd, of Bridgeton, was present and read us a very practical paper on "Some diseases of the eye that must be treated by the general practitioner."

Dr. O. H. Adams, of Vineland, presented his report upon "Progress in Gynæcology," and the report shows an intimate acquaintance with the recent literature of the subject.

Dr. Judson Daland, Philadelphia, reported "a case of poisoning from a well known table sauce," which proved to be very interesting.

Dr. Henry Elmer, of Bridgeton, reports: "There has been the general run of diseases incident to our climate and situation, geographically speaking. During the early autumn, and in the summer, too, lasting well into the winter, we had quite an epidemic of catarrhal jaundice, and I think I am safe in saying that I treated more cases of that disorder during the past six months than I have treated in all of my practice put together. It did

not seem to be confined to the city, but extended in the country to a great extent. I have just made a report of the Bridgeton Hospital and find that we have treated in that institution during the past year, sixty-seven cases; largely surgical and gynæcological. The figures are: 15 gynæcological, 34 surgical and 18 medical. There has been some good work done there as shown by tabulated statement. Still I am of the opinion that Hospital services should be rendered in a very cautious manner that people may not be encouraged to pauperism. That, it seems to me, is the tendency of so much charity work. Do not misunderstand me. Not all the work done is charitable, but a good portion of it."

Dr. L. L. Hand, of Leesburg, states: "There was during the first three months of the year an increased amount of sickness in this section; largely la grippe associated to a marked extent with bronchitis; some cases being especially stubborn to conquer."

Dr. M. K. Elmer, of Bridgeton, says: "We had our usual visitation of grip the past winter, but somewhat late, as it was most prevalent during February. Measles and scarlet fever were also prevalent during the winter, and a few cases of typhoid fever."

Dr. J. C. Applegate, of Bridgeton, our Secretary, writes me that seven candidates have been elected to full membership in our County Society during the year. No deaths.

Dr. Grafton E. Day, of Millville, reports pronounced endemic of la grippe during January and February, with very general involvement of the naso-pharynx, resulting in many cases of otitis media. He reports marked results from bleeding (30 oz.) in case of epilepsy. He also wishes to report the following case:

E. R. D., male, age 63, American, engineer, family

history good, except that father died of heart disease when 60 years of age. Previous history of having had "bowel consumption" when an infant and until he was 26 years of age had chronic diarrhœa, with acute exaccerbations upon the least indiscreation in diet; an apple, even in mid-winter, would provoke severe attack of cholera morbus, but a twelve months diet of milk so helped him that he has seldom been troubled since. In '65 he had enteric fever, other than above he has been well. Habits have always been good.

He was taken suddenly ill, April 26, 1900, with chill, fever 103, rapid pulse, 120, and severe abdominal pains accompanied by severe vomiting. Responded slowly to treatment but for six days was obstinately constipated. All symptoms were alleviated, but continued in subacute form, with, however, marked depression, accompanied by noticeable loss of flesh until May 16, when a marked change for the worse occurred; irregular fever, 99–104°, pulse rapid, small, weak, and at times dichrotic, 110–130, slight coryza and dry, hacking cough, with rapidly developing anæmia. Depression became alarming, the patient reaching a cochectic condition with profuse sweats when asleep.

During entire course of illness tongue was deeply injected, fissured and enlarged. A mild diarrhœa developed after the third week. Vomiting was a constant attendant from the first without any ascertainable cause, the vomit being biliary with an abundance of mucous, and at times a suspicious material present, microcospy not being made the character of the material is not known. Twice streaks of blood appeared in the vomit.

During a period of six weeks patient lost sixty pounds in weight. During illness there was pain in both hypochondiac regions, more marked and more persistent on

the left side (no icterus, no straining, no abnormalities upon examination), and tenderness over epigastric region. No changes in nervous system. Repeated examinations of chest gave negative results. Urinalysis negative, on June 14, lavaged stomach in evening, gave test meal in morning to get juices for tests, and the nausea and vomiting ceased, with no recurrence. Corbolic acid and tincture of chloride of iron test showed abundance of lactic acid. Tests for hydrochloric acid showed traces. Later Diazo reaction for urine gave negative results, as did also Widal's for the blood.

SUMMARY.—The diagnosis at first visit was acute gastritis, but on more extended observation decided that the patient was suffering from influenza, but as it lapsed into a sub-acute stage with irregular temperature, pulse as noted, cough, rapid emaciations, exhaustion and sleep sweats, these with the general appearance, suggested either tuberculosis or enteric fever. Chest examination being negative and test for enteric fever also negative. The diagnosis became obscure, but upon continued close observation, noting the progressive emaciation, exhaustion, cochexic condition, epigastric tenderness and the vomiting with the characters thereof as well as the presence of blood upon two occasions, and the result of the tests of the gastric juice, carcinoma of the stomach suggested itself, but after lavage with the same line of tonic and intestinal antiseptic treatment as had been pursued, the patient began a rapid and uneventful recovery. Today he is in perfect health, weighs 200 pounds, as before his illness, and works 16 hours a day.

Dr. Day also reports the formation of a Medical Association among the physicians of Millville, to agree upon a uniform fee list, avoid deadbeats and promote good fellowship among the profession. Strange to relate several

of our physicians have not joined the Association, and among these are two members of the state Medical Society.

None of our members so far as heard from have had any experience with X-ray from a medico-legal standpoint.

S. T. DAY, *Reporter.*

PORT NORRIS, N. J.

ESSEX COUNTY.

To the Chairman of the Standing Committee:

The Essex County Society has but little to report of interest, at least it so seems, as I have received no indications of it from its members, of any activity. A large number of the blanks were sent to its members with no return, or more properly, one reply.

It seems that something should be done to get the profession to assist in the reporter's work, else it must degenerate into a report of personal opinion, or information, or none at all.

We have been called upon to report the death of five of our members: Drs. William Spencer Ward, Joseph Davis Osborne, William Pierson, Henry Theodore Herold and Thomas Page Edwards, whose obituaries are supplied herewith.

The Medical Club of Newark, composed of the female members of our profession in this section, was organized last November. Its first president is Dr. Catherine Porter, Orange; Isabel M. Geddes, Newark, secretary. It numbers about twenty, and everything points to their success, for which we all wish.

Our Orange brethern have established a medical library association, with the title: "The William Pierson Medical Library Association," which has for its object:

"To perpetuate the memory of a great medical man by founding a medical library; instituting medical lectures of scientific interest; establishing a medical reading room; and by forwarding all subjects of interest to the medical profession."

The Association, for the purpose of founding a medical library, has Dr. Pierson's library of over 1000 volumes and an endowment fund of five thousand dollars, donated by Mrs. Pierson, the interest of which will be devoted to the buying of new books and the care of them.

The books are to be kept in the Orange Free Library, in the Stickler Memorial Building, in a separate alcove, especially designed for medical books, fenced off from the rest of the stack room, where they may be consulted by any physician. It is proposed that to the members of this Association books may be loaned subject to certain restrictions as yet undetermined.

The District Society held its meeting at East Orange, with a fairly good attendance. The president, Dr. Thos. W. Harvey, of Orange, read his report, the title of which was, "What are we to do with the indigent consumptive."

Quite a number of new members were added to the roll, and a generally good condition may be reported among us.

WILLIAM DISBROW, *Reporter.*

FIBRO-CYSTIC TUMOR OF THE UTERUS.

REPORTED BY THOS. W. HARVEY, M.D., ORANGE, N. J.

On December 19, 1900, I saw, through the courtesy of Dr. Simmons, Mrs. D., a married woman, aged 65 years. She was then suffering from a severe pain in the abdomen and was vomiting; her abdomen was very tender; the temperature about normal but her pulse fast—120, and weak. She seemed to be in a condition of shock. She gave the his-

tory of having had a similar attack about one week before, lasting for two or three hours, from which she had recovered. At the time of her first attack, a large tumor had been felt in her abdomen.

Examination showed a mass in the abdomen, more on the right side, but filling the pelvis. Movable, not fluctuating, but difficult to palpate because of the excessive tenderness. The diagnosis of a pedunculated tumor with a twisted pedicle, probably ovarian, was made, and an operation urged.

She was admitted to the Orange Memorial Hospital on the 21st of December. Her general symptoms, such as vomiting and pain, became less, but it took several days for the patient to agree to operation. On the first night at the hospital, after a severe attack of pain, a small fibroid polypus was found projecting from the os uteri. The expulsion of this little tumor seemed to relieve the pain.

A careful revision of the case at this time led us to the belief that the abdominal tumor was also a fibroid.

The patient's general condition improved somewhat, but the pain returned and she submitted to an abdominal section on December 21. The tumor was found to be fibro-cystic, about the size of a child's head, without adhesions, connected with the fundus of the uterus by a very short pedicle about two inches thick; the uterus was about five inches long, and twisted one and a half times on itself, and presented the appearance of a flaccid bag. The uterus, appendages and tumor were removed; the right tube and ovary being much congested and enlarged.

Patient made an uneventful recovery. On the seventeenth day the small fibroid polypus was removed from the cervex.

The interest in the case practically centred in the symptoms of a twisted pedicle, which obscured the diagnosis, and which suddenly made an operation necessary in a condition that had undoubtedly existed many years without much harm.

The pathologist's report is appended.

The tumor was a pedunculated encapsulated sub-peritoneal uterine growth, about the size of a fœtal head at term. The greater part of the tumor was of a dense, hard consistency, but in the upper portion, beneath the capsule, was a cyst, divided by trabiculæ of fibrous tissue into smaller spaces, which communicated with still smaller interspaces in the growth. The cyst and communicating spaces contained a yellowish, sticky fluid, resembling synovial fluid.

Microscopical examination showed the mass to be composed of interlacing bands of dense fibrous connective tissues, sparingly supplied with blood vessels, and in the meshes of the connective tissue bands were occasional strands of unstriped muscular tissue. The cysts had no proper cell-wall and were developed in the fibrous mass. In the near vicinity of the cell-wall, new connective tissue cells of various shapes were seen. The cysts were apparently formed by a metamorphosis of the connective tissue. My diagnosis, therefore, is fibro-myoma of the uterus with mucoid (or cystic) degeneration.

Signed, H. M. MATTHEWS, M.D.

GLOUCESTER COUNTY.

To the Chairman of the Standing Committee:

Owing to the fact that your reporter has only recently become a member of the Gloucester County Medical Society it is impossible to give other than a brief summary of the work of the past year. Indeed, even this would be impossible were it not for the fact that the secretary has kindly furnished me most of necessary data.

There has been five regular meetings of the Society, all of which have been well attended by the regular and honorary members, as well as by the delegates from the neighboring societies.

By far the most important event of the year was the social session held in lieu of the September meeting. This gathering was held at Wenonah Inn, Wenonah, September 13, and was a great success, due in part, no doubt, to the change from afternoon to evening, this giving a longer time for the various form of entertainments provided. There were twenty-one members present, together with a large number of guests from adjoining counties and states.

The past year has been one of the most successful in the history of the Society.

Four new members have joined our ranks, bringing the total membership up to thirty. Those elected to active membership were: Drs. Grant Sparks, of Mantua; James C. McClure, of Williamstown, and W. Grant Simmons, of Swedesboro. Dr. Charles P. Noble, of Philadelphia, was elected an honorary member.

As evidence of the fact that our membership is composed of active, energetic physicians, the Society at the January meeting appointed a committee composed of Drs. Halsey, Wilson and Oliphant, to look into matter of providing a permanent home for the Society, where meetings could be held, and where books, reprints and pathological specimens could be kept for future use.

Several interesting and instructive papers have been read. Owing, however, to the modisty of some of the members, a committee on essays has been appointed, with the hope that the future year may be even more successful than the past.

There seems to have been no unusual amount of sickness, with the exception of some fifteen or more cases of small-pox in Woodbury and two in Paulsboro. Several cases of diphtheria were peported from Woodbury, Williamstown, Glassboro, Clayton and Paulsboro, while sporadic cases of measles, scarlet fever, whooping-cough and other exanthemata occurred in mild form throughout the county.

W. GRANT SIMMONS, *Reporter*.

HUDSON COUNTY.

Owing to the illness of Dr. Burnett no report was received.—H. W. E.

MERCER COUNTY.

To the Chairman of the Standing Committee:

The meetings of the Mercer County Society have been well attended throughout the year. Many interesting and instructive papers were read and discussed.

The Society gained four new members during the year, and lost one, Dr. William Rice, who died suddenly on February 13, 1901.

The annual banquet was held November 13, 1900; thirty-one members and their guests were present. The guest of honor was Dr. Charles L. Leonard, of the University of Pennsylvania, who read a paper, entitled "The Value and Accuracy of the Roentgen Method of Diagnosis in Cases of Fracture." The paper was an able one and covered the subject exhaustively, a series of carefully prepared lantern slides were used by the speaker to illustrate the subject.

Dr. Chas. L. Allen, of the State Hospital, read an essay on "The Neurone Doctrine, its present status."

At the January meeting Dr. J. Franklin Chattin read a very instructive paper entitled, "Strabismus in Children."

At the February meeting Dr. J. C. Felty, of the State Hospital, read an able paper, entitled "Some Characteristic Symptoms of Insanity." At the April meeting Dr. Wm. A. Clark read an essay, entitled "Progressive Pernicious Anæmia, with report of three cases." At the meeting in May, Dr. Cornelius Shepherd read a very interesting paper, entitled "The Duty of the Physician to the Public, in relation to contagious diseases and their prevention." At this meeting Dr. Frank V. Cantwell read an essay, entitled "Mammectomy, with report of a case of Paget's Disease, with specimen."

This city has been a very healthy one during the past year, especially in regard to contagious diseases, as the report below of the city health officer will show:

	CASES.	DEATHS.
Scarlet fever	47	3
Diphtheria	95	11
Typhoid fever	48	3
Tuberculosis, three months, February, March and April	41	12

Dr. Benjamin W. McGalliard reported a case of lupus vulgaris treated by the sun's rays-photo-therapy. The treatment was after the method of Fensen, and consisted of the exposure of the part affected to the influence of the sun's rays, heat being eliminated by interposing a solution of ammonia. A double convex lens, seven inches in diameter, was used. Eighty-five treatments, each an hour in duration, and covering a period of two hundred (200) days, were given, with complete recovery.

Dr. Frank V. Cantwell reported two cases:

I.—Case of incarceration of intestine. Treatment, resection and anastomosis by means of a "Murphy Button," the result being complete recovery of the patient. This is the first successful case in Trenton in which this method has been used.

II.—Case of extra and intra-uterine pregnancy. History of intermittent pain for several weeks; enlargement over the position of one of the ovaries; also enlargement of uterus. Operation: Found fœtus of about two weeks in tube; no rupture, but bleeding from free end. A few days later patient aborted fœtus three months old. Patient made a good recovery.

Dr. Alex. Armstrong reported case of syndætilism, left hand; operation gave good result.

Dr. Wm. McD. Struble reported "thirteen cases of intubation, with but one death," in cases other than diphtheria.

Dr. Benj. W. McGalliard reported "six cases of intubation of the larynx."

Case 1.—Girl, age 8 years. Antitoxin used short time before intubation. The tube was removed in five days. Lungs became involved. Child died one week after removal of tube.

Case 2.—Girl, few months old. Seen late in the disease; antitoxin had been used, but too late; intubation gave relief, but she died in a few hours.

Case 3.—Girl, aged 6 years. 1,000 of units antitoxin injected day previous, and another 1,000 units just previous to intubation; tube removed in four days, but had to be replaced on account of labored breathing. Three days later was removed permanently, having been in about seven days; child very hoarse for two weeks after removal of tube.

Case 4.—Boy, 5½ years 1,000 units of antitoxin had been used five and one-half hours before intubation. After being in situ ten hours tube was coughed up; replaced an hour later. A day and a half later was coughed up again; was not replaced. Only case of the six that coughed up the tube.

Case 5.—Child a few months old. Seen later in the disease; three or four unsuccessful attempts made to introduce tube; during last attempt child suddenly died.

Case 6.—Girl, aged 1 year and 11 months. Antitoxin had been used six hours before intubation; tube introduced at fourth attempt; child had been restlessly tossing around in bed, but at once went to sleep; tube removed two and a half days later; recovery.

Dr. Wm. A. Clark reported "recent experience with pneumonia." The writer reports his cases for the last year of acute lobar pneumonia, fifteen in all, with three deaths. He used salicylate of soda, carbonate of guaiacol and creosote, and says, of these, salicylate of soda proved most efficacious, though all modified favorably the course of the disease. Of the twelve which recovered, eight were aborted, reaching a crisis with amelioration of all symptoms in less than three days from the onset of the disease. The remaining four cases of the twelve recoveries ran the usual course of eight days before reaching the crisis, but with much lower temperature than is generally observed in pneumonia. The three fatal cases

were all favorably influenced by the salicylate, so far as the temperature was concerned.

Case 1, fatal case.—Child, age 6 years. Pneumonia, lower lobe right lung; temperature 104.2 F.; five grains sodii salicylate every two hours; in twelve hours temperature normal; no relief from dyspnœa; left lung soon involved; child died in forty-eight hours of cerebra meningitis.

Case 2.—Same as first case, except duration; began right lung; temperature, 104.6 F.; in less than twenty-four hours, under sodii salicylate, temperature normal; other symptoms did not abate; whole right lung became solid; some pleural effusion, which remained unchanged for three weeks, though the temperature was normal all this time. Suddenly, left lung involved; two days later cerebral meningitis developed and child died during a convulsion.

Case 3.—Adult. Pneumonia, lower lobe right lung; only slightly influenced by the salicylates; ran a course of eight days, when temperature became normal. On following day, however, although the lung was pushed to its physiological limit; left lung became involved; cerebral meningitis supervened and the patient died in convulsions.

Such other remedies were used as adjuvants to the salicylate as seemed indicated in all these cases. The writer concludes:

1st. That the salicylate of soda, if given early and in full doses, will often abort or at least favorably influence most cases of lobar pneumonia. It is, therefore, worth a trial.

2d. In some cases, for some unaccountable reason, while it reduces the temperature, it does not cause a cessation of other symptoms or conditions, nor does it prevent infection of the opposite lung, or the subsequent development of cerebral meningitis.

No replies were received in regard to "What reliance can be placed upon the image produced by the X-ray from a medical-legal standpoint."

Our hospitals have been doing good work throughout the year.

The out-of-town members of the Society have not sent any reports, so the reporter is unable to give any news concerning the health of the county.

GEORGE R. MOORE, *Reporter.*

MONMOUTH COUNTY.

To the Chairman of the Standing Committee:

Our District Society held its regular yearly meeting at Freehold on May 20th, with Dr. Knecht, of Matawan, the president, in the chair. Six new members were admitted, our customary banquet was partaken of, and with that comfortable and world-forgiving feeling that follows a cheerful and well provided dinner—and a healthy stomach—the main business of the day, the reading of papers, the reports of cases and the discussion thereon, was taken up.

The retiring president, Dr. Knecht, read a closely followed address on "An Advance in Clinical Diagnosis;" Dr. Forman, of Freehold, gave a paper on "Appendicitis;" Dr. Field, of Red Bank, reported a case of kidney tumor where the vessels upon the walls had attained the size of a little finger. Following came a discussion on appendicitis, in which Drs. Long, Wooley, Wilbur, Field, Forman, R. B. Brown and Pumyea took part. The fall meeting is to be held at some place selected by a committee of arrangements chosen at this meeting.

With their usual mad rush to overwhelm your reporter with accounts of cases for insertion in this report, the members of the society have apparently so fallen over one another that they have not yet had time to recover their equilibrium, as so far but one such report has reached me, that is from Dr. Forman, of Freehold, which I enclose.

W. U. KURTZ, *Reporter.*

EATONTOWN, N. J.

A CASE OF "CÆSAREAN SECTION."

BY D. McLEAN FORMAN, M.D.,
SURGEON MONMOUTH MEMORIAL HOSPITAL.

H. B., colored, æt. 17 years, primipara. Admitted to the maternity ward of the Monmouth Memorial Hospital, at Long Branch, September 1, 1900. She was nine months pregnant and had had labor pains about seventy-two hours. There was a slight show, os dilated to the size of a half dollar, membranes not ruptured, head had not entered superior strait, fœtal heart sounds strong, pelvis rachitic, smallest diameter about two inches; woman's general condition good, but getting very tired from uterine pains, which had been very frequent during last twelve hours, but were growing weaker.

A consuliation of the attending hospital staff having been held, Cæsarean Section was advised, and as I was the attending surgeon on duty the patient was transferred to my care and an immediate operation decided upon.

In the preparation of the patient, of the operator and of all the assistants, strict "aseptic technique" was observed.

When the patient had heen placed upon the table in the operating room, I, assisted by Drs. Shaw, Field, Wooley and Whitmore of the hospital staff, to each of whom some part in the operation had been assigned, made a median incision through the abdominal wall extending from near the symphysis to a point four inches above the umbilicus. Through this incision the uterus was everted so that it was outside the abdominal cavity. To prevent escape of intestines, as well as ingress of fluids from the uterus when incised, the abdominal incision was closed by a few temporary sutures from its upper extremity to a point close down to the cervix; was then covered with sterile gauze and sterile towels. One of my assistants then grasped the fundus to steady it, another surrounded the cervix with his hands, ready to control hemorrhage by pressure if necessary. The uterus was then rapidly opened by a median vertical incision about six inches long. A strong, vigorous child was quickly delivered. The placenta was immediately extracted without difficulty, and the uterine cavity quickly flushed with hot dici-normal saline solution, which caused prompt contraction of the uterus. A piece of iodoform gauze was then carried from the cavity of the uterus through the cervix, to act as a drain and prevent distension of the uterus in case of uterine hemorrhage after wound in uterine wall had been closed.

The wound in the uterus was then closed by interrupted silk sutures passing through the muscular wall only. Then a row of seroserous (Lembert) sutures closed in the line of sutures through the muscle.

The abdomen was closed with cat-gut sutures put in in tiers, one row uniting peritoneum, another the fascia, and finally a row of silkworn gut, through and through, closed the abdominal wall and relieved the tension on the other sutures.

There was but little bleeding during the operation and the patient left the table in good condition.

The history of the case subsequent to the operation was uneventful. Her convalescence seemed to be about as rapid as after a normal labor, and she with her strong, vigorous child was discharged on October 1, thirty days after the operation.

MORRIS COUNTY.

To the Chairman of the Standing Committee, &c.:

The reporter is able to record a continued activity in the progress of medical science, as shown more especially in the well attended society meetings and the active interest shown therein. At the December meeting, held in Dover, Dr. W. S. Foster read a most capital essay on "Localization of Brain Lesions," which was a scholarly effort and most thoroughly enjoyed by all.

At this meeting, also, the society had as its guest the venerable Dr. Baldwin, of Baltimore, Md., who, notwithstanding his extreme age of nearly ninety years, addressed the society in a few well chosen remarks, expressing his great interest in the proceedings of the meeting.

At the annual meeting held in Madison, May 14th, Dr. H. W. Kice, the retiring president, read a very fine address, and excellent papers were also read by Drs. H. S. Wheeler and G. H. Foster, the former on "hay fever" and the latter on "dysentery." Both these papers were well received and thoroughly discussed.

E. P. COOPER, *Reporter.*

PASSAIC COUNTY.

To the Chairman of the Standing Committee, etc.:

The general health of Passaic County has been extremely good, although the death rate of 17.86 is higher than the preceding year. This is explained by the fact that the census taken this year showed that too high an estimate was made the year preceding.

During the winter "la grippe" was not as prevalent as formerly, yet it was characterized by the severe prostration, which often followed a very mild attack.

Scarlet fever has been very prevalent, although very mild in character.

Paterson escaped its usual typhoid outbreak last year, having fewer cases reported and a much lower death-rate.

The outbreak of diphtheria was very noticeable and of a severe character. When the schools closed for the usual vacation the number of new cases were decidedly decreased.

Smallpox first made its appearance in Paterson, March 25, 1901. From then to the present time there have been forty-seven cases reported. From the onset the Board of Health took every precaution. They ordered all mill hands and school children vaccinated, and the cases were removed to the Isolation Hospital as soon as discovered. On account of the mild character of the disease, it was very hard to prevent new cases. The patients were seldom very sick, and in a number of cases continued with their work until the eruption was well out. In this way many were exposed who would not have been had the character been more severe. There were only three deaths, and in two of these the cases were complicated by other contagious diseases. A few bad results have been reported from the vaccination, but none that have been at all serious.

Paterson appreciated her model isolation hospital, and the report of that institution shows that there were more patients treated there during the last six months than during any previous year.

The East Jersey Water Co. is building a mechanical system of rapid sand filtration at Little Falls. This will not be completed until January 1902. By its use Paterson should have one of the best water supplies in America.

Spinal anæsthesia has been used in the hospitals of Paterson and Passaic, for both major and minor operations. No bad results have been reported.

The X-ray has been used with great success in cases of fractures, dislocations and foreign bodies. As yet no good results have been reported in diagnosing renal calculi, solid tumors or tubercular processes. There has been no bad results reported from its use.

St. Joseph's Hospital has just erected a large brick addition, which is to be used mostly as an administration building, in this way making more room in the hospital proper.

The General and St. Joseph's hospitals have been crowded for room a number of times during the last year. More cases have been treated than in any previous year.

The work at the Ear and Eye Infirmary in Paterson is continued, a large number of patients being treated.

The society has lost two of its members during the year—Dr. Calvin Terriberry, of Paterson, N. J., and Dr. Rundle, of Passaic, N. J.

The meetings of the society are well attended. A number of very interesting papers have been read and discussed by out-of-town physicians.

FRANCIS H. TODD, *Reporter.*

SOMERSET COUNTY.

To the Chairman of the Standing Committee, &c.:

The Somerset County Society has to report a year of much interest and of well-attended and profitable meetings. The attendance has been uniformly good, the discussions well maintained, and a number of extremely interesting cases have from time to time been brought forward for mutual instruction. At the July meeting Dr. Buchanan, of North Plainfield, read a paper on the treatment of summer complaint of infants. At this meeting Dr. Hecht, of Raritan, reported a very interesting case of purpura hæmorrhagica, laying stress upon the absence of any rheumatic symptoms in the patient. Dr. Fisher, of Bound Brook, also reported a case of very severe diphtheria in the case of a lady past three score and ten years. At the October meeting Dr. Stillwell, of Somerville, read a very able paper upon the treatment of typhoid fever, which provoked a valuable discussion of various phases of the subject, especially upon the treatmeet of hæmorrhage from the bowel, and the advisability of surgical procedures in such cases. The Doctor also reported a case of intussusception occurring in his practice. Dr. Davis, of North Branch, was appointed to read a paper at the January meeting, but was unable to attend, and in his absence Dr. Fisher opened the discussion upon the subject assigned, namely, "Influenza and its treatment." Many useful points were brought out. Dr. Buchanan reported an interesting case of threatened eclampsia, occurring in his practice, in which, by the energetic use of diuretics, milk diet and rest, the patient was carried safely through her pregnancy. A number of the members present related their experiences with this dreaded complication of pregnancy. At this meeting the

subject of contract attendance was brought up and heartily discussed and condemned by the members present, the universal sentiment being that the past stand of the Somerset County Society regarding such practice as pernicious and not in accord with the spirit of medical ethics, should be most rigidly maintained. At the annual meeting in April the annual address was delivered by Dr. Pearce Bailey, of New York city, upon the medico-legal subject of "Hysteria and the Courts." It need scarcely be said that the address was of extreme interest to all present. The usual routine business was transacted, including the annual election of officers, which resulted in again seating in their respective chairs the officers who so ably filled them the past twelvemonth. During the year the society has lost two of its members by death, Dr. W. B. Ribble, of East Millstone, a member of the county society since 1860, and Dr. Adonis Nelson, of Neshanic. More fitting mention of each will be found elsewhere. Three new members have been elected, Dr. Geo. Henry, of Raritan, at the January meeting, and Dr. F. L. Field, of Millstone, and Dr. A. H. Dundon, of North Plainfield, at the April meeting. Of sickness in the county there is little to be said, other than that grippe was largely in evidence during the early months of the present year, and was accompanied by a rather high percentage of abdominal complications. A new hospital has been opened at Somerville, known as "The Somerset Hospital," and has seen good service, a number of major operations having already been performed there. The need of such an institution has been felt for a long while, and the efforts of the profession and the laity interested to secure it are much to be commended.

J. HERVEY BUCHANAN, *Reporter.*

NORTH PLAINFIELD May 20, 1901.

UNION COUNTY.

To the Chairman of the Standing Committee, &c.:

The Union County District Medical Society has held four regular and one special meeting during the past year.

The essays and discussions were as follows: "Walcher's Position," Dr. E. B. Grier; "The Vasicular Murmur and Its Relation to Health and Disease," Dr. T. N. McLean; "How Nature Cures in Medicine and Surgery," Dr. E. W. Hedges; "Spinal Anæsthesia," Dr. J. B. Harrison; "Abstract from Notes of Twenty Years' Maternity Work," Dr. M. B. Long.

The attendance at meetings has been large, and there has been more than ordinary interest in the success of the society. Seven new members were taken in, while we lost one by death and one by resignation.

Contagious diseases have been numerous, but, in general, of a mild type. The deaths from diphtheria and scarlet fever have been very few. The sanitary authorities and health boards of the county are to be congratulated and praised for the prompt and efficient measures taken upon the advent of small-pox. In three towns in the county it has been limited to one case, which, in my opinion, is a record rarely equaled. Though not authorized to report as above, I know this to be the feeling of the members of our society.

Respectfully submitted,

R. B. WHITEHEAD, *Reporter.*

WARREN COUNTY.

To the Chairman of the Standing Committee, &c.:

I received your notices in due time, and sent out the same to the members of our District Society, but received no answers, except from our active and earnest young

friend, F. W. Curtis, M.D., of Stewartsville, who has just passed through a severe and almost fatal attack or pneumonia. He writes me of an epidemic of pneumonia in his vicinity during the last fall and winter, of marked severity, associated with some very unusual phenomena—extremely high temperature, involvement of two or more lobes, slow defervescence and high death-rate, there being four (4) deaths therefrom that came within his immediate knowledge.

Our District Society held its annual meeting on the fourth of this month, at the American House, Belvidere. There was a good attendance and some very important cases presented and discussed. It would seem that very little reliable information has been obtained, up to date, relative to the X-rays, except the differentiation of dislocations and fractures and the location of foreign bodies, which knowledge has certainly been of great benefit to the human family. I herewith send you a brief sketch of the life of our late beloved associate, Wm. Stites, M.D., by Charles B. Smith, M.D., who was very near to Dr. Stites in many ways.

J. H. GRIFFITH, *Reporter*.

PHILLIPSBURG, N. J., June 15, 1901.

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